ADMINISTRATIVE RECORD

NEARPARA RUBBER INC. SITE

TRENTON, MERCER COUNTY, NEW JERSEY

Prepared by:

U.S. EPA Region II Technical Assistance Team
Roy F. Weston, Inc
Major Programs Division
Edison, New Jersey

Prepared for:

Neil Norrell, On-Scene Coordinator
U. S. EPA Region II
Removal Action Branch
Edison, New Jersey

December 1993

Administrative Records in Local Repositories

The "Administrative Record" is the collection of documents which form the basis for the selection of a response action at a Superfund site. Under Section 113(k) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act (SARA), the EPA is required to establish an Administrative Record available at or near the site.

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The Agency welcomes comments at any time on documents contained in the Administrative Record file. Please send any such comments to Neil Norrell, On-Scene Coordinator, Response and Prevention Branch, Removal and Preparedness Program, U.S. EPA Region II, Woodbridge Avenue, Edison, NJ 08837.

For further information on the Administrative Record file,
contact Neil Norrell, On-Scene Coordinator, U.S. EPA Region II, at (908) 321-4357.

NEARPARA RUBBER INC. SITE

ADMINISTRATIVE RECORD FILE

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NEARPARA RUBBER INC. SITE

ADMINISTRATIVE RECORD FILE

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The index of documents contains the following information about each document:

Document #:	Site Code-Section First Page-Section Last Page
Title:	Abstract of Document Contents
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Author:	Writer and Affiliation
Recipient:	Addressee or Public and Affiliation, if applicable
Date:	When Document was Created or Transmitted

Note: Items in the Administrative Record are for public access, and should be removed from the file only for copying. The cost of reproduction of the documents in the file is the responsibility of the person requesting the copy.

NEARPARA RUBBER INC. SITE
ADMINISTRATIVE RECORD FILE
LIST OF DOCUMENTS

Document #: NRI - 1.1001 - 1.1002
Title: Removal Request
Category: Site Identification
Author: Karl J. Delaney, State of New Jersey Department of Environmental Protection and Energy
Recipient: George Pavlou, Acting Director Emergency and Remedial Response Division, U.S. EPA
Date: August 16, 1993

Document #: NRI - 1.1003 - 1.1018
Title: Site Assessment Report
Category: Removal Response
Author: Region II Technical Assistance Team
Recipient: EPA
Date: N/A

Document #: NRI - 2.1001 - 2.1046
Title: Sampling and Operations Plan for Nearpara Rubber
Category: Removal Response
Author: Region II Technical Assistance Team
Recipient: Neil Norrell, Response and Prevention Branch, U.S. EPA
Date: None

Document #: NRI - 2.2001 - 2.2009
Title: Request for a Removal Action at Nearpara Rubber
Category: Removal Response
Author: Neil J. Norrell, On-Scene Coordinator U.S. EPA
Recipient: William J. Muszynski, Acting Director U.S. EPA
Date: September 29, 1993

Document #: NRI - 3.1001 - 3.1001
Title: Public Availbility Notice
Category: Public Participation
Author: N/A
Recipient: Public
Date: None

Document #: NRI - 3.2001 - 3.2009
Title: Community Relations Plan
Category: Public Participation
Author: Region II Technical Assistance Team
Recipient: Neil Norrell, Response and Prevention Branch, U.S. EPA
Date: October 1993

Document #: NRI - 4.1001 - 4.1002
Title: EPA Regional Guidance Documents
Category: Technical Sources and Guidance Documents
Author: EPA
Recipient: File
Date: None

State of New Jersey
Department of Environmental Protection and Energy
Division of Responsible Party Site Remediation
CN 028
Trenton, NJ 08625-0028

Jeanne M. Fox
Acting Commissioner

Karl J. Delaney
Director

AUG 16 1993

George Pavlou, Acting Director
Emergency and Remedial Response Division
U.S. Environmental Protection Agency II
26 Federal Plaza
New York, New York 10278

Dear Director Pavlou:

Re: Removal Request - Nearpara Rubber Company
1849 East State Street
Hamilton, New Jersey

The New Jersey Department of Environmental Protection and Energy (NJDEPE) hereby submits the Nearpara Rubber Company site for CERCLA removal action consideration. The following information details the case history and supports the removal request.

The Nearpara Rubber Company was a former processor of reclaimed rubber from tire stock, innertubes, latex gloves, off-spec condoms and baby bottle nipples. The facility operated for over eighty years in an industrial section of Hamilton Township, at the intersection of East State Street and Whitehead Road. The nine acre site, listed as Block 46, Lot 16, was abandoned in February of 1993 as a result of bankruptcy proceedings and the projected cost of a comprehensive site cleanup.

A joint site inspection conducted by the NJDEPE, USEPA and the Hamilton Township 4th Fire District, on April 8, 1993 noted the following:

1. A mound of approximately 200,000 used tires in addition to mounds of discarded innertubes and rubber bladders situated at the rear of the complex, near the Whitehead Road overpass and an active commuter railroad.

2. Open bags of Carbon Black stored behind the facility's tank farm, consisting of eight aboveground storage tanks, ranging in size from 1,000 to 12,000 gallons. The tanks are suspected of containing fuel oils, solvents and an unknown caustic liquid.

3. Unregistered 20,000-gallon underground storage tanks with unknown contents.

4. Numerous 55-gallon drums containing waste oils and unknowns scattered throughout the facility.

5. Two PCB transformers buried under mounds of rubber.

The Department issued Field Directives to all potentially responsible parties on July 17, 1993 for the sampling, characterization and disposal of all hazardous waste, sampling and excavation of contaminated soil and the identification and disposal of all asbestos on site. A response date of August 9, 1993 has elapsed without response.

The Department views this site as a serious health and safety threat as it is situated in a heavily populated area near an active commuter railroad. Stormwater runoff, collected in catch basins at the rear of the facility, discharges into Pond Run, a nearby creek. Should a fire occur on site, there is sufficient fuel to create an air borne hazard which could impact a nearby residential area known as the Bromley Section of Hamilton Township. Although the facility is fenced, there are areas, including the front gate facing East State Street, in such disrepair that access can be easily gained.

The Department therefore requests that EPA sample, characterize, overpack and dispose of all hazardous materials in addition to the unattended combustible raw materials on site and in the interim, secure the site to restrict unauthorized and unwarranted entry.

Should your staff require additional information, please have them contact David E. Triggs of the Bureau of Field Operations' Site Assessment Section at (609) 584-4280.

Sincerely,

Karl J. Delaney

C: Associate Director Salkie, Removal & Emergency Preparedness Program
Assistant Director Howitz, Discharge Response Element
Chief Van Fossen, Bureau of Field Operations
Chief Delikat, Bureau of Emergency Response
Section Chief Krisak, Bureau of Field Operations, Central Region

SITE ASSESSMENT REPORT

Site Name: Nearpara Rubber Inc.

Site Location: Hamilton Township, Mercer County, New Jersey (see Attachment A)

TDD No: 0293050016A

Sampling Dates: June 9 and 10, 1993

Site Diagram and Sample Location Diagram: See Figures I and II

Sampling Personnel:

NAME	TITLE	FUNCTION
Neil Norrell	EPA OSC	Project Manager
Kim Scarcella	TAT	Project Coordinator
Elizabeth Kelly	TAT	Sampling Operations
Diane Delap	TAT	Sampling Operations
Mike Hodanish	TAT	HazCat, Sample QC

Objective of Trip:

The objective of this trip was to provide information to determine if site conditions pose an imminent and substantial threat to public health and welfare or the environment. Site assessment activities included site reconnaissance with direct reading air monitoring instruments, inventory of tanks, drums, and lab chemicals, sampling of tanks and drums, and HazCat field identification of the samples.

Site Background:

The Nearpara Rubber Inc. site is an abandoned rubber recycling facility located at 1849 East State Street Extension, Hamilton Township, Mercer County, New Jersey. The site occupies approximately 8.5 acres and is situated in a heavily industrialized section of Hamilton Township. The National Sponge Cushion Co., an active manufacturer of sponge rubber cushioning, boarders the site on the north. The site is bordered on the west by Conrail tracks, the major transportation line for the Philadelphia, New York, and Trenton area and on the east by Amtico Flooring, a manufacturer of linoleum floor tiles.

Conrail is within 1/4 mile of the site. There is a high school, an elementary school, and a senior citizen's residence complex within 1/2 mile of the site.

Site Activities:

On June 9, 1993, the TAT members met OSC, Neil Norrell, on site. After discussing and signing the site Health & Safety and Sampling Plans, TAT and the OSC entered the exclusion zone using level B protection to perform the initial site reconnaissance and air monitoring with direct reading instruments.

Upon entry, the team found that there were three areas within the process building: the processing area, the workshop area, and the cooker building. Within the workshop area, several one- and five-gallon pails filled with an unknown oily substance were observed. The area was dark and there were numerous trip and fall hazards presented by the haphazardly stored equipment. No readings above background were noted on the air monitoring instruments in this area. After completing monitoring in the workshop area, the entry team entered the processing area. There were several storage rooms noted in the processing area. The team found approximately 19 drums constructed of fiber, steel, or poly which contained varying amounts of unknown substances. Several of these drums were not labeled. Overhead hazards were presented by the old processing equipment still in the building.

The cooker building was located to the rear of the processing area and up a flight of stairs. The floors of this building were constructed entirely of steel stairways and catwalk. The upper areas of this building could not be accessed because of unstable steel flooring. Two drums found in this area appeared to contain a rubber-like material and had no markings. There were two large tanks (approximately 10,000-gallon) located in this building which appeared to be empty. No readings above background were noted in any areas of the process building.

After completing reconnaissance in the process building, the team entered the drum storage shed and the warehouse buildings. Approximately 18 drums were discovered in the shed. Most were constructed of poly or steel and were filled with unknown liquids; several of the drums had no markings. The floor to the shed was very sticky and slippery. No air monitoring readings above background were noted in the drum storage shed. At the rear of the shed, to the right, there was an area where drums were stored on top of one another. This condition did not permit the team to investigate the contents of these drums. The warehouse area contained solid rubber sheeting stored in plastic bags or loosely scattered throughout the warehouse. A small laboratory area was also housed in this area. No air monitoring readings above background were noted in the lab area or in the warehouse area. The entry team inventoried the lab area (see Attachment B).

On June 10, 1993, the team arrived on site and began the process of inventorying the remainder of the drums and tanks on the property, and collecting samples for HazCatting. All sampling was conducted using proper drum and tank sampling protocols. HazCatting was performed to identify the characteristics of the materials inside

the drums and tanks. Sample descriptions and HazCat results can be found in attachment C. The complete drum and tank inventory which includes drum markings, contents and type of drum can be found in Attachment D.

Actual and Potential Hazards found on site:

The site is surrounded by a fence, but several areas are damaged and access to the site can be gained by vandals. There are no locks on any of the buildings on site. This increases the possibility of unauthorized entry into the buildings. There was also evidence that vagrants may have been living inside the buildings.

Most of the drums and containers found inside the buildings are opened or have no lid. Others were observed to be leaking their contents onto the ground. Still others were observed stored on top of one another. All of these conditions greatly increase the possibility of direct contact by vandals or vagrants with the contaminated materials inside the buildings.

There are also numerous piles of old tires and rubber on site which pose a high fire hazard. Should there be a fire, the railroad corridor directly behind the site and the active facilities bordering the site could be impacted by a release of toxic fumes from the burning rubber and/or tire piles.

Within the laboratory area, there are several bottles of unknown solutions, acids, bases, and solvents stored on shelves in close proximity to one another. This increases the possibility of a chemical reaction and fire on site.

Materials on site:

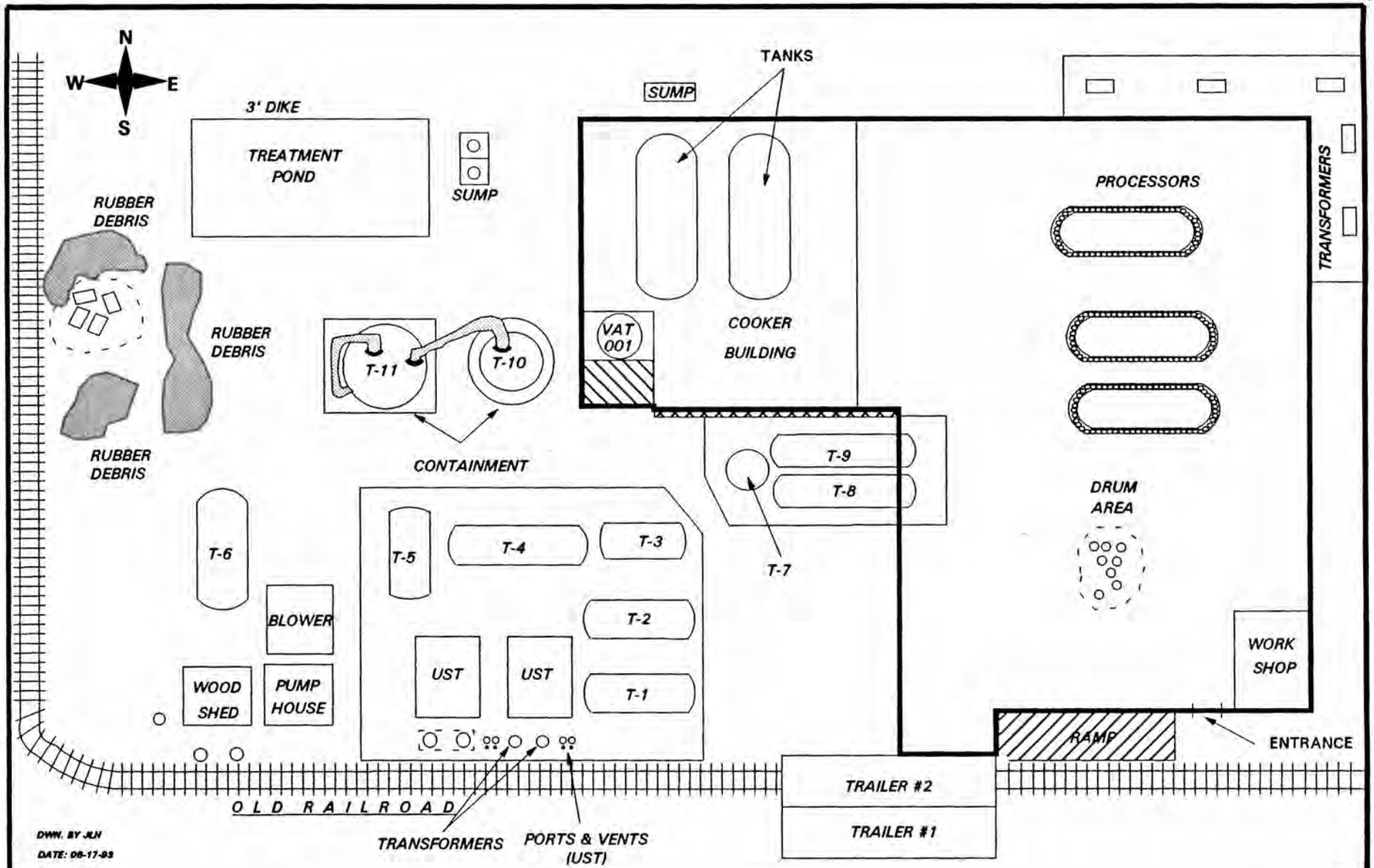
Based on the HazCat results, flammable, corrosive and chlorinated compounds are present in the materials on site. It is not known, at this time, if any of the compounds contain metals or organic compounds which would cause them to be labeled as hazardous wastes. The complete list of HazCat results is included as attachment C. An oil sample collected from a transformer tested positive for the presence of chlorine. HazCat tests do not identify specific chemical compounds and laboratory testing would be required.

Summary:

This assessment has uncovered many hazards present at this abandoned complex. Some of these include loose floorings, unknown and hazardous materials, uncovered drums, and fire hazards. Because all of the buildings which contain unknown materials have no locks, there is the possibility of an act of vandalism or an accident occurring. Should an accident or act of vandalism start a fire, it would quickly spread throughout the complex creating a toxic plume which could endanger the health and welfare of the public and the environment.

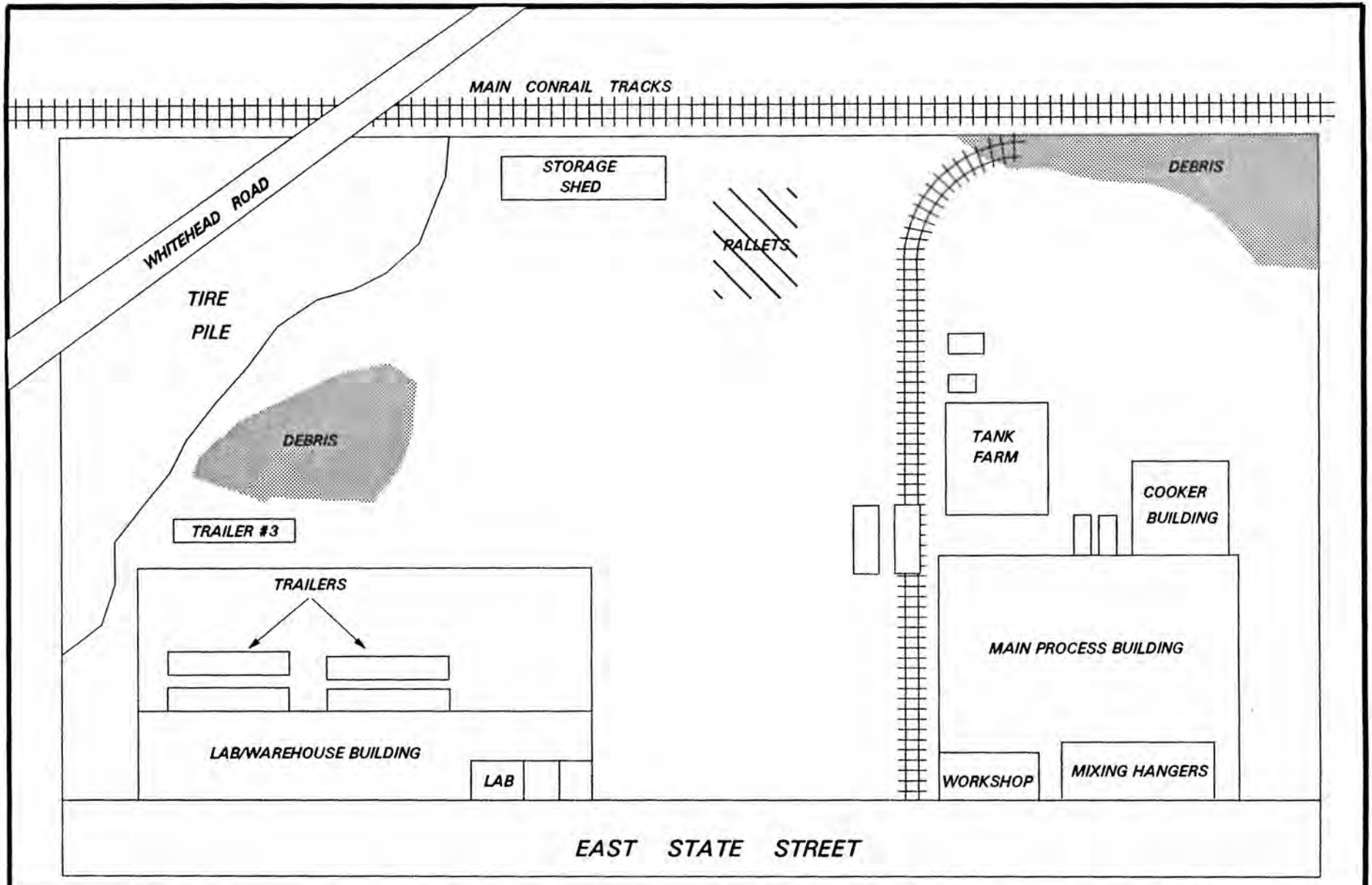
As previously stated, the floor to the drum storage shed is covered with a sticky, slippery substance and the upper floors to the cooker building are unstable. Both of these create slip/trip/fall hazards within the buildings. There is a large possibility of injury to anyone who enters the buildings.

FIGURE I



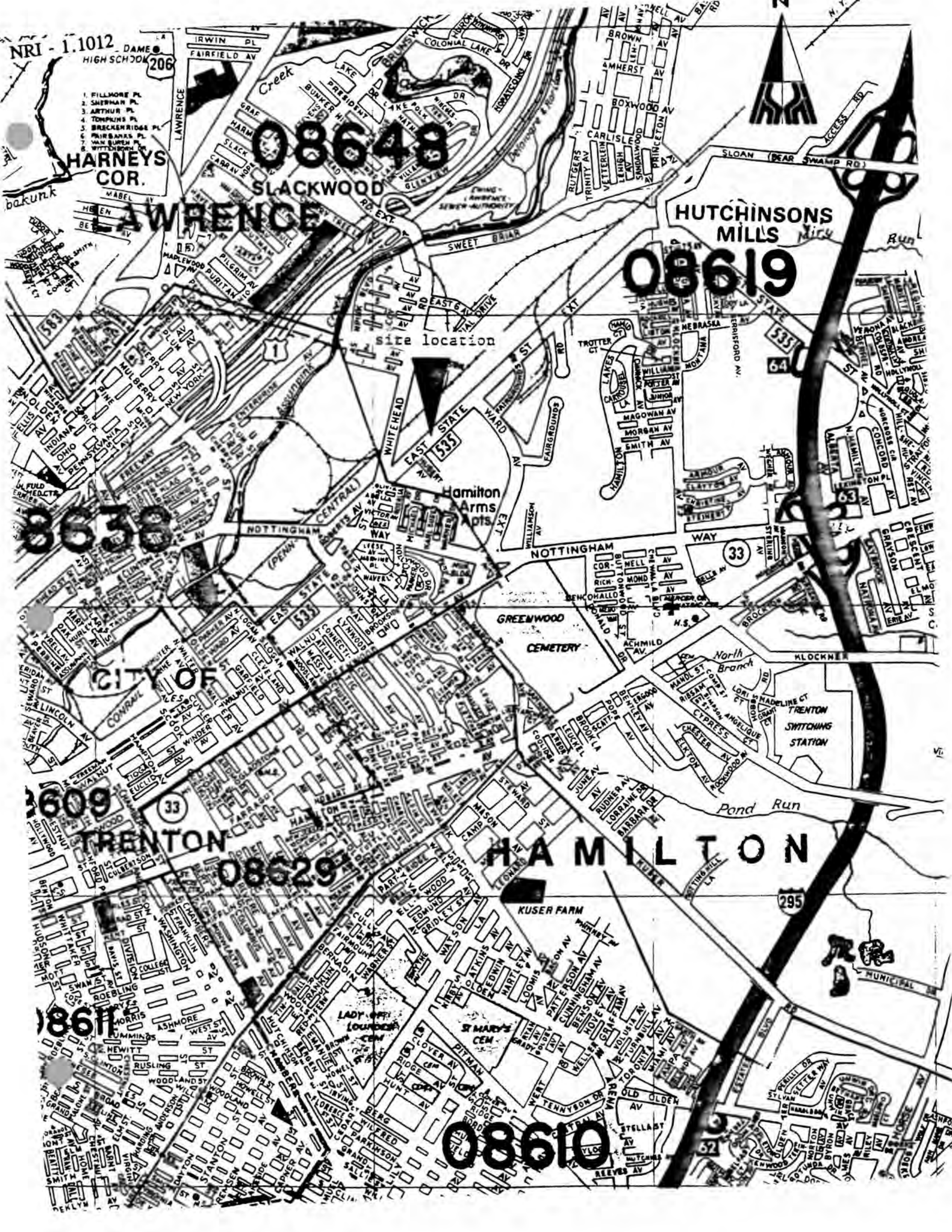
WESTON MANAGERS DESIGNERS/CONSULTANTS Roy F. Weston, Inc. MAJOR PROGRAMS DIVISION	EPA PM *N. Norrell*	*Site Layout*
IN ASSOCIATION WITH FOSTER WHEELER CORP., C.C JOHNSON & MALHOTRA, P.C., RESOURCE APPLICATIONS, INC. AND R.E. SARRIERA ASSOCIATES	TAT PM *K. Scarcella*	*Nearpara Rubber Inc.*

FIGURE II



WESTON MANAGERS DESIGNERS/CONSULTANTS Roy F. Weston, Inc. MAJOR PROGRAMS DIVISION	EPA PM N. Norrell	Site 2# Layout
IN ASSOCIATION WITH FOSTER WHEELER CORP., C.C JOHNSON & MALHOTRA, P.C., RESOURCE APPLICATIONS, INC. AND R.E. SARRIERA ASSOCIATES	TAT PM K. Scarcella	Nearpara Rubber Inc.

ATTACHMENT A


NRI - 1.1012
HARNEYS COR.
LAWRENCE
08648
SLACKWOOD
HUTCHINSONS MILLS
08619
site location
Hamilton Arms Apts.
8638
CITY OF
TRENTON
08629
HAMILTON
GREENWOOD CEMETERY
TRENTON SWITCHING STATION
KUSER FARM
ST MARY'S CEM
08611
08610
609
NOTTINGHAM
EAST STATE
535
33
295
Pond Run
North Branch

ATTACHMENT B

NRI - 1.1014

NEARPARA RUBBER SITE

1849 East State Street, Hamilton Township, NJ

CHEMICAL LABORATORY INVENTORY LIST (6/10/93)

CHEMICAL NAME	CONTAINER SIZE	NUMBER OF CONTAINERS
Acetic Acid	1 gallon	1
Barium Chloride	8 oz.	1
Battery water	1 quart	1
Catalyst	8 oz.	1
Chloric Reagent powder, gel	2 oz.	1
Dessicant	16 oz.	1
FFW Rosin	16 oz.	1
Hydrogen Peroxide	8 oz.	1
Hydrogen Chloride	1 pint	1
Iodide Iodate	1 pint	2
Isopropyl alcohol	16 oz.	3
Kerosene	1 gallon	1
Lacquer	1 quart	3
Magnesium Chloride	1 pint	1
Muriatic Acid	1 quart	1
Toluidine	8 oz.	1
Paint	1 gallon	2
Phenolphthalein	2 oz.	1
Pine Tar	1 gallon	1
Reagents	16 oz.	10
Roda #10	1 gallon	1
Salt Solution	64 oz.	1
Sodium Hydroxide	1 gallon	1
Sodium Hydroxide solid	250 grams	1
Staye-Lite Resin	1 pint	1
Sulfuric Acid	1 pint	3
Sulfuric Acid, concentrated	1 gallon	1
Terpineol	2 gallons	1
Tall Oil Pitch	16 oz.	1
Toluene	5 gallons	2
Uritene - Tank #1	1 gallon	1
Witcomil	16 oz.	1
Zinc Chloride	8 oz.	1
Zinc Chloride Unknown Test Solution	8 oz.	12
<u>UNKNOWNS</u>		
Unknown, buffer	2 pints	2
Unknown aqueous solution	1 quart	1
Unknown liquid (in fuel can)	1 gallon	1
Unknown liquid	1 gallon	7
Unknown liquid	8 oz.	7
Unknown	1 quart	3
Unknown	4 oz.	1
Unknown	2 oz. or less	approx. 24

ATTACHMENT C

NEARPARA RUBBER SITE

1849 East State Street, Hamilton Township, NJ

HAZCAT RESULTS (6/10/93)

Container Number	Container Type	Ignitibility	Corrosivity	Sample Description	Comments
101	55-gallon steel drum	No	No	Aqueous Liquid	Mostly water "Solvus Acido Lubricant - Sunoco"
102 (T)* 102 (B)*	55-gallon steel drum	Comb* No	No No	Organic Liquid Aqueous Liquid	Combustible Mostly water Label reads "ATF"
103	55-gallon steel drum	Comb	No	Organic Liquid	Mostly oil "Tresstick 150 - Exxon"
104	55-gallon steel drum	Comb	Unk	Organic Chlorinated Liquid	Chlorinated, (>50 ppm), possible PCBs or chlorinated solvent "Lube Oil, Mobil"
105	55-gallon poly drum	No	No	Inorganic Aqueous Liquid	Mostly water "Industrial Water Tech. Inc."; Corrosive sticker
106 (T) 106 (B)	55-gallon steel drum	Comb	No	Organic Liquid Inorganic Liquid	Evaporates, vapors do not ignite; all or mostly water "Latex Lube - AR"
107	55-gallon steel drum	No	No	Aqueous Liquid	Unpleasant odor - Polar solvent in water "Ronex MP-MT"
108	55-gallon steel drum	Flam	Unk	Flammable Organic Liquid	"Exxon nonexemp-MT"
109	55-gallon steel drum	No	No	Aqueous Liquid	Mostly water "Latex Lube - AR"
110	55-gallon steel drum	No	Yes	Inorganic Base Solid (flakes)	Corrosive marked "caustic soda - oxidizer, corrosive"
113B	55-gallon steel drum	No	No	Inorganic Solid	Mostly inert; no markings
009 (T) 009 (B)	55-gallon steel drum	Comb Unk	Unk No	Organic Liquid Inconclusive	Ignitibility test not complete Ignitibility test not complete
011	55-gallon poly drum	No	No	Inorganic Liquid	No char test Corrosive sticker

NEARPARA RUBBER SITE

1849 East State Street, Hamilton Township, NJ

HAZCAT RESULTS (6/10/93)

Container Number	Container Type	Ignitibility	Corrosivity	Sample Description	Comments
012	55-gallon steel drum	No	No	Inorganic Liquid	Milky white liquid, no char test performed
016	55-gallon steel drum	No	Yes	Corrosive Solid	Material leaking from bottom 8" of drum (see photograph) "Latex Lube - AR"
PB-007	10-gallon fiber container	No	No	Inorganic Solid	Very inert; could be an alkaline salt "Industrial Water Tech, Inc.; IWT0440 - catalyst oxygen scavenger"
PB-010	55-gallon steel drum	No	No	Inorganic Aqueous Liquid	Polar solvent in water; mostly water; "Malabate" stamped on side of drum; Readings: OVA: 40 units, HNu: 56 units
UST-01	underground storage tank	Yes	Unk	Organic Liquid	Borderline combustible - flammable
T-1	10,000-gallon tank	No	No	Aqueous Liquid	Mostly water Marked "Solvent residue"
T-2	10,000-gallon tank	Yes	No	Organic Liquid	Marked "#1102 Oil"
TP-1	treatment pond	No	No	Inorganic Sludge	
S-01 (T)	sump	No	No	Inorganic Liquid	Sump located near treatment pond
S-01 (B)		No	No	Inorganic Sludge	
Tran-01	transformer	Unk	Unk	Chlorinated Liquid	Chlor-N-Oil Test Indicates nearly pure Arochlor; very positive Chlorine Hot Wire No other test completed.

NOTE:

1) All samples tested negative for cyanide reactivity
2) All water-soluble samples tested negative for sulfide reativity. Hexane-soluble samples not tested.

LEGEND:

* Comb = combustible
Flam = flammable
(T) = Top layer or phase
(B) = Bottom layer or phase

Sampling and Operations Plan for Nearpara Rubber Hamilton Township, Mercer County New Jersey

Prepared for:
Neil Norrell
Emergency Response and Spill Prevention Branch
U.S. EPA Region II
Edison, New Jersey 08837

Prepared by:
Region II Technical Assistance Team
Roy F. Weston, Inc.
Edison, New Jersey 08837

Removal Action Branch
U.S. EPA Region II
Edison, NJ 08837

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LIST OF APPENDICES

Appendix A: Hazcat Protocol

Appendix B: Drum Sampling SOP

Appendix C: Tank Sampling SOP

LIST OF FIGURES

Figure 1: Site Location Map

1. PROJECT NAME: Nearpara Rubber
1849 East State St. Ext.
Hamilton Township
Mercer County, NJ

2. PROJECT REQUESTED BY: Neil Norrell
Response and Prevention Branch

3. DATE REQUESTED: June 2, 1993

4. DATE OF PROJECT INITIATION: June 3, 1993

5. PROJECT ORGANIZATION AND RESPONSIBILITY:

The following is a list of key project personnel and their corresponding responsibilities:

Neil Norrell, USEPA	EPA On-Scene Coordinator
Kim Scarcella, TAT II	TAT Project Manager
Michael Hodanish	Hazcatting
Diane Delap, TAT II	Sampling Operations
Elizabeth Kelly	Sampling Operations

6. Project Description:

This project will consist of an overall site assessment at the above named facility. Site activities will include a complete inventory of materials on site including any laboratory areas, sampling of drums and tanks, and subsequent hazcatting of samples.

A. Data Usage:

The data generated in this assessment will be used to identify potentially hazardous substances on site, to determine RCRA characteristics of the unknown materials, and to determine if there exist contaminant levels above background.

7. Sampling Procedure:

Samples will be collected in accordance with the established Standard Operating Procedures which are found in Appendices B & C.

8. Analytical Procedures:

The Hazcat Chemical Identification System will be used to determine which samples have the highest potential to possess hazardous characteristics, and to check chemical properties of waste materials against container label descriptions and warning signs.

Hazcatting will be completed outdoors in a level of protection suitable to the nature of the materials to be hazcatted. When hazcatting unknown materials, Level B protective wear will be used. The following hazcat identification tests will be completed for all samples:

a. Ignitability
b. pH Test
c. Cyanide Test
d. Sulfide Test
e. Oxidizer Test
f. Definitive tests for any TCLP target analytes, depending upon container descriptions
g. Additional characteristic or definitive tests, at the discretion of the hazcat analyst.

TAT-2 has the capability of identifying general waste categories in unknown waste material through the analytical method known as hazcatting. These basic wet chemistry techniques which are performed on site can greatly aid in decision making throughout the course of a removal action. For the most part, TAT-2 uses the Hazcat® Chemical Identification System by Haztech Systems Inc. (See Appendix A). Additional spot tests are also used as necessary. These are included in Appendix A.

9. Documentation, Data Reductions and Reporting:

Field data will be entered into a bound notebook. Field notebooks, hazcat data sheets, and site reports will be filed and stored in accordance with established protocols.

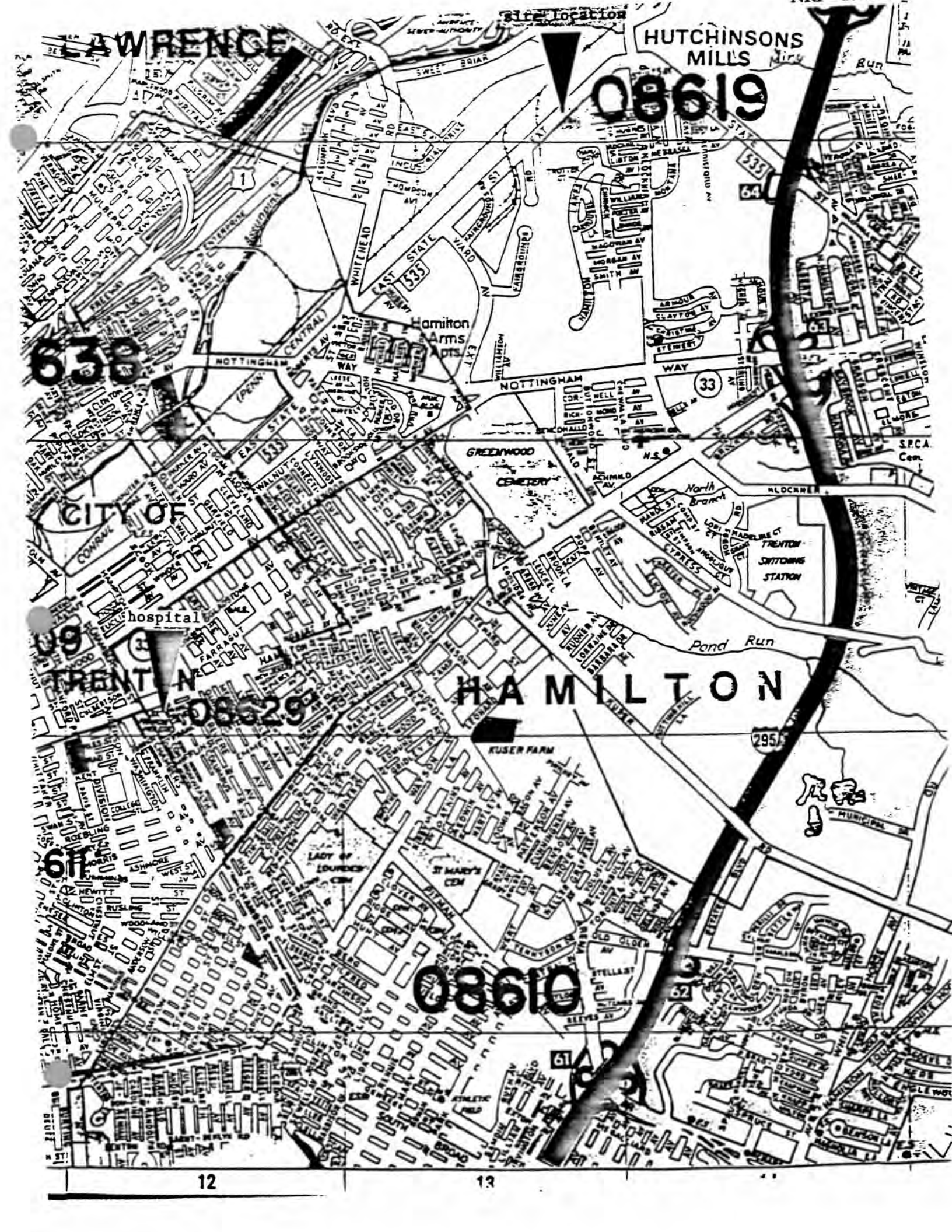
10. Quality Assurance and Data Reporting:

Proper QA/QC protocols will be followed by the field chemist on site. Data will be recorded on the appropriate data sheets which will be included in the assessment report provided to the OSC within 7 days after the completion of all site activities.

11. Project Fiscal Information:

All equipment and manpower will be provided by TAT. All hours expended by TAT will be charged to TDD # 0293050016, PCS# 4359.

FIGURE 1
SITE LOCATION MAP


Site location
LAWRENCE
HUTCHINSONS MILLS
08619
08629
08610
HAMILTON
TRENTON
CITY OF
Hamilton Arms Apts.
hospital
GREENWOOD CEMETERY
TRENTON SWITCHING STATION
KUSER FARM
Pond Run
NOTTINGHAM
WHITEHEAD
EAST STATE
CENTRAL
LADY OF LOURDES CEM
ST MARY'S CEM
12
13

APPENDIX A
HAZCATTING SOP

COMPATIBILITY TESTING

I. INTRODUCTION

The purpose of the following testing scheme is to:

A. separate and classify various unknown containerized waste materials into compatible groups based on their physical and chemical characteristics;

B. identify incompatible waste materials and hazardous components; and

C. simulate field bulking operations, assuring that no reactions occur during these operations.

II. TEST PROCEDURES

A. Solubility Test

1. Water Solubility

Each sample is checked for water solubility by placing approximately ¼ inch of the sample into a culture tube containing ¼ inch of water. The sample is thoroughly mixed and the following observations are noted:

a. Sample dissolves in water - indicates inorganic or polar organic.

b. Sample insoluble in water and less dense than water (floats) - indicates an organic.

c. Sample insoluble in water and more dense in water (sinks) - if liquid, could be a halogenated, oxygenated or metallic organic. If solid, indicates a halogenated organic, metallic organic, metal, soil or other inorganic.

d. Sample bubbles, effervesces, pops, crackles, fumes or emits heat - indicates sample is water reactive.

e. Sample partially soluble in water or forms emulsion - indicates sample is an organic/ inorganic mixture or is an inorganic or polar organic with limited solubility. If the latter, the addition of more water or heat will usually dissolve the sample.

2. Water Test

a. Add a small amount of Alka Seltzer to a liquid unknown. Effervescence indicates the presence of greater than 1% water.

3. Hexane Solubility

Hexane solubility is performed by the same method with hexane in the culture tube instead of water. The following observations are made:

a. Sample is soluble in hexane - indicates organic.

b. Sample is insoluble in hexane - if liquid, indicates inorganic or polar organic; if solid, test is inconclusive.

c. Sample is partially soluble in hexane - indicates the material is an organic/ inorganic mixture or is an organic with limited solubility. If the latter, the addition of more hexane or heat will usually dissolve the sample.

If sample is insoluble in both water and hexane, soluble in both water and hexane, or partially soluble in both water and hexane, additional testing will be necessary to determine if the sample is organic or inorganic (e.g., ignitability test, char test).

Water and hexane solubility tests yield information regarding a compounds polarity and density. It does not necessarily tell you whether a compound is organic or inorganic. However, in general, nonpolar compounds are usually organic and polar compounds inorganic.

B. <u>pH Test</u>

The pH is measured on those samples which are soluble or partly soluble in water. You can use the water fraction of the water solubility test to determine the pH. If the pH is not 7 (pH of distilled water), this indicates that at least part of the sample dissolved in water. The following observations are made:

a. Samples with pH < 2 - indicates a strong acid.

b. Samples with pH > 2 but < 12 - classified as neutral.

c. Samples with pH > 12 - indicates a strong base.

If a color change appears that does not match the pH chart, the sample should be diluted with water and retested.

C. **Oxidizer Test**

The oxidizer test is performed by placing ¼ inch of the sample into a culture tube, and then inserting an oxidizer test strip which has been acidified with hydrochloric acid into the tube. You can use the water fraction of the water solubility test for the oxidizer test. The following observations are made:

a. Immediate dark blue or black color - indicates a strong oxidizer. If the dark blue/black color disappears soon after, indicates a very strong oxidizer.

b. A dark blue/black color formed in half a minute to one minute - indicates a moderate oxidizer.

c. A light blue/black color formed in half a minute to one minute - indicates a weak oxidizer.

d. No color change - indicates a non-oxidizer.

It is important to replace the cap on the oxidizer test paper bottle. Oxygen in the air is an oxidizer, and test paper left out too long will turn black with the addition of HCl, creating the potential for false positives.

D. **Peroxide Test**

The peroxide test is completed only if there is a positive indication in the oxidizer test.

These instructions are for use of the Merckoquant 10011 Peroxide Test Paper. Unopened packages should be stored in a refrigerator; however, after opening the packages do **not** store in the refrigerator.

a. For Water Soluble Unknowns

1. Dip the test strip into the dissolved unknown.

2. After 15 seconds, compare the reaction zone with the color scale, and record the reading.

b. For Hexane Soluble Unknowns

1. Dip the test strip into the dissolved unknown.

2. Wave the test strip about until the solution has evaporated from the reaction zone.

3. Dip into distilled water. Gently shake off excess water.

4. After 15 seconds, compare the reaction zone with the color scale, and record the reading.

If the reaction zone color is too dark to read and the color is green, blue or brown, a dilution is required to determine if peroxides are present. If the diluted unknown is determined to be a peroxide, be sure to report the **undiluted** test value (> 25 ppm) and **not** the diluted value.

If the pH of the unknown solution is greater than 12 or less than 2 the test result will not be valid. The pH must be adjusted to a value between 2 and 12 before the test is initiated. Use either hydrochloric acid or sodium citrate.

It is important to replace the cap immediately on the peroxide test paper bottle to prevent moisture accumulation.

E. Sulfide Test

a. Moisten the sulfide test paper (lead acetate paper) with a few drops of water.

b. Place a small amount of liquid or solid unknown in a watch dish and aluminum dish. Alternatively, you can use the water solubility test if the material is water soluble.

c. Acidify the unknown with 5 drops of HCl acid.

d. Touch the moistened sulfide test paper to the unknown. A positive indication of sulfides is a color change from white to brown or black.

F. Cyanide Test

The cyanide test will indicate the presence of cyanide salts. It will not indicate the presence of covalently bonded cyanide groups (organic cyanides). The cyanide test is necessary if there is any indication of water solubility.

Always test the cyanide solution prior to use. Use the Zinc Test (Potassium Ferrocyanide) as the standard.

1. For solids, use a small amount of unknown dissolved in 1/2 inch of water; For liquids, add 1/2 inch.

2. In a separate test tube, add 1/4 inch of Cyanide Test #1 to a pinch of Cyanide Test #2.

3. Add the Cyanide Test solution to the unknown. Shake the test tube gently.

4. Remove the stopper and add three drops of hydrochloric acid. If the mixture remains yellow, add another 3 drops of acid.

5. A positive indicator of cyanide is a dark prussian blue after the addition of the acid.

F. Ignitability Test

The ignitability test is performed by pouring enough sample into a small dish to cover the bottom of the dish. A lighted match is slowly passed under the dish in order to heat the sample. After the sample is sufficiently heated, the match is slowly drawn toward the sample. The following observations are made:

This test should not be performed near containers of unknown or flammable materials.

a. The sample ignites before or as the match reaches the sample, and remains lit after the match is drawn away - indicates the sample is flammable and organic.

b. The sample does not ignite but the match remains lit, if liquid, - indicates that the sample is combustible and organic. If solid, do char test to determine if sample is combustible.

c. The sample does not ignite and the match goes out immediately - if liquid, sample is inorganic. If solid, do char test to determine non-combustibility.

The RCRA definition of ignitable is a material that will ignite at a temperature less than 140 F° when in contact with a flame source. When the ambient temperature is very low, pass a flame under the watch dish to heat the sample prior to conducting the test.

Determining the difference between combustible and flammable is important if it is necessary to know if a material is a RCRA Hazardous Ignitable waste, or if materials on site are to be segregated for safety considerations. It is not as important for disposal considerations, as both combustible and flammable materials will have high heat of combustion values.

G. Chlorine Hot Wire Test

The chlorine hot wire test, when used on hexane soluble materials, will determine the presence of covalently bonded carbon-chlorine bonds. Commonly found compounds in this group include chlorinated solvents, PCBs and chlorinated pesticides.

When used on water soluble materials, the test will indicate the presence of dissolved polar-organic chlorinated materials. However, it will also indicate the presence of other polar compounds such as amines, nitrates and urea. Strong acids will also give a positive test. Therefore a positive result on a water soluble material does not necessarily indicate the presence of covalently-bonded chlorine. (See the Hazcat Manual for more information).

1. Clean the coiled copper wire by heating over a torch flame until it glows red. Continue to heat the wire until there is no green color in the flame.

2. Remove the wire from the flame and allow it to cool.

3. Dip the cooled wire into the unknown, leaving the wire in the unknown for 10 seconds. The wire should never be hot enough to boil the solvent.

4. Put the wetted wire into the torch flame. A positive indicator of covalent chlorine is a green flame. Any other color is negative.

A green colored flame can also be produced if the unknown material contains certain metals or phosphates mixed with sulfates. In this case, the green flame will be produced without the presence of copper. If any of these materials are suspected, complete the Flame Test (See HazCat Manual).

Dexsil CHLOR-N-OIL, CHLOR-N-SOIL and CHLOR-D-TECT Q4000 test kits are also useful for determining organic chlorine. The Q4000 kits will provide quantitative information on chlorine concentrations. Be aware that none of the Dexsil Kits can differentiate between PCBs, chlorinated solvents and chlorinated pesticides.

H. Char Test

The Char test is a screening test to determine if a substance is organic or inorganic. It is necessary to conduct the Char Test only when it is not possible to determine if a substance is organic or inorganic based on solubility and ignitability tests. See the Hazcat Manual for more information regarding the Char Test.

1. Add a small amount of unknown to a test tube.

2. Heat the unknown in the test tube gently. The unknown may initially melt, boil, sublime, burn, ignite, evaporate or char. Note the first reaction, but continue to heat the unknown gently until it no longer reacts. Then use direct flame until no further change in the unknown occurs or the test tube begins to melt.

3. Simultaneously try to ignite the vapors. An organic will burn vigorously while an inorganic will not propagate a flame. An organic will also produce smoke while an inorganic will not.

4. Empty the remaining material into a watch dish, if any. Note the volume of material remaining compared to the volume of material at the test initiation. In most cases an organic will completely burn away and leave little residue, while an inorganic will have little volume change.

It is common at CERCLA sites to find waste materials that are not completely organic or completely inorganic. These organic/inorganic mixtures will have characteristics of both types. The material will propagate a flame, but it will not remain lit for the duration of the test. In the case of solids there will be a reduction in volume, but much of the material will remain after the test is complete. With liquids, the volume reduction may be complete, but the flame will extinguish once the organics have evaporated. In these cases judgement must be used to declare a substance organic or inorganic depending upon the volume reduction and duration of the flame. Some examples of such mixtures would be speedy dry with oil, PCB-contaminated soil, and alcohols, ketones, or amines in water.

APPENDIX B
DRUM SAMPLING SOP

2.0 DRUM SAMPLING: SOP #2009

2.1 SCOPE AND APPLICATION

The purpose of this Standard Operating Procedure (SOP) is to provide technical guidance on safe cost-effective response actions at hazardous waste sites containing drums with unknown contents. Container contents are sampled and characterized for disposal, bulking, recycling, grouping, and/or classification purposes.

2.2 METHOD SUMMARY

Prior to sampling, drums must be inventoried, staged, and opened. An inventory entails recording visual qualities of each drum and any characteristics pertinent to the contents' classification. Staging involves the organization, and sometimes consolidation of drums which have similar wastes or characteristics. Opening of closed drums can be performed manually or remotely. Remote drum opening is recommended for worker safety. The most widely used method of sampling a drum involves the use of a glass thief. This method is quick, simple, relatively inexpensive, and requires no decontamination.

2.3 SAMPLE PRESERVATION, CONTAINERS, HANDLING, AND STORAGE

Samples collected from drums are considered waste samples. No preservatives should be added since there is a potential reaction of the sample with the preservative. Samples should, however, be cooled to 4°C and protected from sunlight in order to minimize any potential reaction due to the light sensitivity of the sample.

Sample bottles for collection of waste liquids, sludges, or solids are typically wide-mouth amber jars with Teflon-lined screw caps. Actual volume required for analysis should be determined in conjunction with the laboratory performing the analysis.

Follow these waste sample handling procedures:

1. Place sample container in two Ziploc plastic bags.
2. Place each bagged container in a 1-gallon covered can containing absorbent packing material. Place the lid on the can.
3. Mark the sample identification number on the outside of the can.
4. Place the marked cans in a cooler, and fill remaining space with absorbent packing material.

5. Fill out chain of custody form for each cooler, place in plastic, and affix to inside lid of cooler.

6. Secure and custody seal the lid of cooler.

7. Arrange for the appropriate transportation mode consistent with the type of hazardous waste involved.

2.4 INTERFERENCES AND POTENTIAL PROBLEMS

The practice of tapping drums to determine their contents is neither safe nor effective and should not be used if the drums are visually overpressurized or if shock-sensitive materials are suspected. A laser thermometer may be used instead.

Drums that have been overpressurized, to the extent that the head is swollen several inches above the level of the chime, should not be moved. A number of devices have been developed for venting critically swollen drums. One method that has proven to be effective is a tube and spear device. A light aluminum tube (3 meters long) is positioned at the vapor space of the drum. A rigid, hooking device attached to the tube goes over the chime and holds the tube securely in place. The spear is inserted in the tube and positioned against the drum wall. A sharp blow on the end of the spear drives the sharpened tip through the drum and the gas vents along the grooves. The venting should be done from behind a wall or barricade. This device can be cheaply and easily designed and constructed where needed. Once the pressure has been relieved, the bung can be removed and the drum sampled.

2.5 EQUIPMENT/APPARATUS

The following are standard materials and equipment required for sampling:

- personal protection equipment
- wide-mouth glass jars with Teflon cap liner, approximately 500 mL volume
- uniquely numbered sample identification labels with corresponding data sheets
- 1-gallon covered cans half-filled with absorbent (vermiculite)
- chain of custody forms
- decontamination materials
- glass thief tubes or Composite Liquid Waste Samplers (COLIWASA)
- laser thermometer
- drum opening devices

Drum opening devices include the following:

2.5.1 Bung Wrench

A common method for opening drums manually is using a universal bung wrench. These wrenches have fittings made to remove nearly all commonly encountered bungs. They are usually constructed of cast iron, brass, or a bronze-beryllium, non-sparking alloy formulated to reduce the likelihood of sparks. The use of a non-sparking bung wrench does not completely eliminate the possibility of a spark being produced.

2.5.2 Drum Deheader

When a bung is not removable with a bung wrench, a drum can be opened manually by using a drum deheader. This tool is constructed of forged steel with an alloy steel blade and is designed to cut the lid of a drum off or part way off by means of a scissors-like cutting action. A limitation of this device is that it can be attached only to closed head drums. Drums with removable heads must be opened by other means.

2.5.3 Hand Pick, Pickaxe, and Hand Spike

These tools are usually constructed of brass or a non-sparking alloy with a sharpened point that can penetrate the drum lid or head when the tool is swung. The hand picks or pickaxes that are most commonly used are commercially available; whereas the spikes are generally uniquely fabricated 4-foot long poles with a pointed end.

2.5.4 Backhoe Spike

The most common means used to open drums remotely for sampling is the use of a metal spike attached or welded to a backhoe bucket. In addition to being very efficient, this method can greatly reduce the likelihood of personal exposure.

2.5.5 Hydraulic Drum Opener

Another remote method for opening drums is with remotely operated hydraulic devices. One such device uses hydraulic pressure to pierce through the wall of a drum. It consists of a manually operated pump which pressurizes soil through a length of hydraulic line.

2.5.6 Pneumatic Devices

A pneumatic bung remover consists of a compressed air supply that is controlled by a heavy duty, two-stage regulator. A high-pressure air line of desired length delivers compressed air to a pneumatic drill, which is adapted to turn a bung fitting selected to fit the bung to be removed. An adjustable

bracketing system has been designed to position and align the pneumatic drill over the bung. This bracketing system must be attached to the drum before the drill can be operated. Once the bung has been loosened, the bracketing system must be removed before the drum can be sampled. This remote bung opener does not permit the slow venting of the container, and therefore appropriate precautions must be taken. It also requires the container to be upright and relatively level. Bungs that are rusted shut cannot be removed with this device.

2.6 REAGENTS

Reagents are not typically required for preserving drum samples. However, reagents are used for decontaminating sampling equipment. Decontamination solutions are specified in SOP #2006, Sampling Equipment Decontamination.

2.7 PROCEDURES

2.7.1 Preparation

1. Determine the extent of the sampling effort, the sampling methods to be employed, and which equipment and supplies are needed.

2. Obtain necessary sampling and monitoring equipment.

3. Decontaminate or preclean equipment, and ensure that it is in working order.

4. Prepare scheduling and coordinate with staff, clients, and regulatory agency, if appropriate.

5. Perform a general site survey prior to site entry in accordance with the site-specific health and safety plan.

6. Use stakes, flagging, or buoys to identify and mark all sampling locations. If required, the proposed locations may be adjusted based on site access, property boundaries, and surface obstructions.

2.7.2 Drum Inspection

Appropriate procedures for handling drums depend on the contents. Thus, prior to any handling, drums should be visually inspected to gain as much information as possible about their contents. Those in charge of inspections should be on the look-out for:

- drum condition, corrosion, rust, and leaking

- symbols, words, or other markings on the drum indicating hazards (i.e., explosive, radioactive, toxic, flammable)

- signs that the drum is under pressure

- shock sensitivity

Monitor around the drums with radiation instruments, organic vapor monitors (OVA) and combustible gas indicators (CGI).

Classify the drums into categories, for instance:

- radioactive
- leaking/deteriorating
- bulging
- drums containing lab packs
- explosive/shock sensitive

All personnel should assume that unmarked drums contain hazardous materials until their contents have been categorized, and that labels on drums may not accurately describe their contents.

If it is presumed that there are buried drums on-site, geophysical investigation techniques such as magnetometry, ground penetrating radar, and metal detection can be employed in an attempt to determine depth and location of the drums. See SOP #2159, General Surface Geophysics.

2.7.3 Drum Staging

Prior to sampling, the drums should be staged to allow easy access. Ideally, the staging area should be located just far enough from the drum opening area to prevent a chain reaction if one drum should explode or catch fire when opened.

While staging physically separate the drums into the following categories: those containing liquids, those containing solids, lab packs, or gas cylinders, and those which are empty. This is done because the strategy for sampling and handling drums/containers in each of these categories will be different. This may be achieved by:

- Visual inspection of the drum and its labels, codes, etc. Solids and sludges are typically disposed of in open-top drums. Closed-head drums with a bung opening generally contain liquid.

- Visual inspection of the contents of the drum during sampling followed by restaging, if needed.

Once a drum has been excavated and any immediate hazard has been eliminated by overpacking or transferring the drum's contents, affix a numbered tag to the drum and transfer it to a staging area. Color-coded tags, labels, or bands should be used to mark similar waste types. Record a description of each drum, its condition, any unusual markings, and the location where it was buried or stored, on a drum data sheet. This data sheet becomes the principal recordkeeping tool for tracking the drum onsite.

Where there is good reason to suspect that some drums contain radioactive, explosive, and shock-sensitive materials, these drums should be staged in a separate, isolated area. Placement of explosives and shock-sensitive materials in diked and fenced areas will minimize the hazard and the adverse effects of any premature detonation of explosives.

Where space allows, the drum opening area should be physically separated from the drum removal and drum staging operations. Drums are moved from the staging area to the drum opening area one at a time using forklift trucks equipped with drum grabbers or a barrel grappler. In a large-scale drum handling operation, drums may be conveyed to the drum opening area using a roller conveyor.

2.7.4 Drum Opening

There are three basic techniques available for opening drums at hazardous waste sites:

- Manual opening with non-sparking bung wrenches,
- Drum deheading, and
- Remote drum puncturing or bung removal.

The choice of drum opening techniques and accessories depends on the number of drums to be opened, their waste contents, and physical condition. Remote drum opening equipment should always be considered in order to protect worker safety. Under OSHA 1910.120, manual drum opening with bung wrenches or deheaders should be performed **only** with structurally sound drums having contents that are known to be (1) not shock sensitive, (2) non-reactive, (3) non-explosive, and (4) non-flammable.

Manual Drum Opening with a Bung Wrench

Manual drum opening with bung wrenches should not be performed unless the drums are structurally sound (no evidence of bulging or deformation) and their contents are known to be non-explosive. If opening the drum with bung wrenches is deemed reasonably cost-effective and safe, then follow these procedures to minimize the hazard:

1. Fully outfit field personnel with protective gear.

2. Position drum upright with the bung up, or, for drums with bungs on the side, lay the drum on its side with the bung plug up.

3. Wrench the bung with a slow, steady pulling motion across the drum. If the length of the bung wrench handle provides inadequate leverage for unscrewing the plug, attach a "cheater bar" to the handle to improve leverage.

Manual Drum Opening with a Drum Deheader

Drums are opened with a drum deheader by first positioning the cutting edge just inside the top chime and then tightening the adjustment screw so that the deheader is held against the side of the drum. Moving the handle of the deheader up and down while sliding the deheader along the chime will cut off the entire top. If the top chime of a drum has been damaged or badly dented, it may not be possible to cut off the entire top. Since there is always the possibility that a drum may be under pressure, make the initial cut very slowly to allow for the gradual release of any built-up pressure. A safer technique would be to use a remote method to puncture the drum prior to using the deheader.

Self-propelled drum openers which are either electrically or pneumatically driven can be used for quicker and more efficient deheading.

Manual Drum Opening with a Hand Pick, Pickaxe, or Spike

When a drum must be opened and neither a bung wrench nor a drum deheader is suitable, the drum can be opened for sampling by using a hand pick, pickaxe, or spike. Often the drum lid or head must be hit with a great deal of force in order to penetrate it. The potential for splash or spraying is greater than with other opening methods and, therefore, this method of drum opening is not recommended, particularly when opening drums containing liquids. Some spikes used have been modified by the addition of a circular splash plate near the penetrating end. This plate acts as a shield and reduces the

amount of splash in the direction of the person using the spike. Even with this shield, good splash gear is essential.

Since drums cannot be opened slowly with these tools, spray from drums is common requiring appropriate safety measures. Decontaminate the pick or spike after each drum is opened to avoid cross-contamination and/or adverse chemical reaction from incompatible materials.

Remote Drum Opening with a Backhoe Spike

Remotely operated drum opening tools are the safest available means of drum opening. Remote drum opening is slow, but is much safer compared to manual methods of opening.

Drums should be "staged" or placed in rows with adequate aisle space to allow ease in backhoe maneuvering. Once staged, the drums can be quickly opened by punching a hole in the drum head or lid with the spike.

The spike should be decontaminated after each drum is opened to prevent cross-contamination. Even though some splash or spray may occur when this method is used, the operator of the backhoe can be protected by mounting a large shatter-resistant shield in front of the operator's cage. This, combined with the required level of personal protection gear, should be sufficient to protect the operator. Additional respiratory protection can be afforded by providing the operator with an on-board airline system.

Remote Drum Opening with Hydraulic Devices

A piercing device with a metal point is attached to the end of a hydraulic line and is pushed into the drum by hydraulic pressure. The piercing device can be attached so that the sampling hole can be made on either the side or the head of the drum. Some of the metal piercers are hollow or tube-like so that they can be left in place if desired and serve as a permanent tap or sampling port. The piercer is designed to establish a tight seal after penetrating the container.

Remote Drum Opening with Pneumatic Devices

Pneumatically-operated devices utilizing compressed air have been designed to remove drum bungs remotely.

2.7.5 Drum Sampling

After the drum has been opened, monitor headspace gases using an explosimeter and organic vapor analyzer. In most cases it is possible to observe the contents of these sealed or partially sealed vessels. Since some layering or

stratification is likely in any solution left undisturbed over time, take a sample that represents the entire depthofthevessel.

When sampling a previously sealed vessel, check for the presence of a bottom sludge. This is easily accomplished by measuring the depth to the apparent bottom, then comparing it to the known interior depth.

Glass Thief Sampler

The most widely used implement for sampling is a glass tube commonly referred to as a glass thief. This tool is simple, cost effective, quick, and collects a sample without having to decontaminate. Glass thieves are typically 6mm to 16mm I.D. and 48 inches long.

Procedures for using a glass thief are as follows:

1. Remove cover from sample container.
2. Insert glass tubing almost to the bottom of the drum or until a solid layer is encountered. About one foot of tubing should extend above the drum.
3. Allow the waste in the drum to reach its natural level in the tube.
4. Cap the top of the sampling tube with a tapered stopper or thumb, ensuring liquid does not come into contact with stopper.
5. Carefully remove the capped tube from the drum and insert the uncapped end in the sample container.
6. Release stopper and allow the glass thief to drain until the container is approximately 2/3 full.
7. Remove tube from the sample container, break it into pieces and place the pieces in the drum.
8. Cap the sample container tightly and place prelabeled sample container in a carrier.
9. Replace the bung or place plastic over the drum.
10. Log all samples in the site logbook and on field data sheets.
11. Package samples and complete necessary paperwork.

12. Transport sample to decontamination zone to prepare it for transport to the analytical laboratory.

In many instances a drum containing waste material will have a sludge layer on the bottom. Slow insertion of the sample tube down into this layer and then a gradual withdrawal will allow the sludge to act as a bottom plug to maintain the fluid in the tube. The plug can be gently removed and placed into the sample container by the use of a stainless steel lab spoon.

It should be noted that in some instances disposal of the tube by breaking it into the drum may interfere with eventual plans for the removal of its contents. This practice should be cleared with the project office or other disposal techniques evaluated.

COLIWASA Sampler

Some equipment is designed to collect a sample from the full depth of a drum and maintain it in the transfer tube until delivery to the sample bottle. These designs include primarily the Composite Liquid Waste Sampler (COLIWASA) and modifications thereof. The COLIWASA is a much cited sampler designed to permit representative sampling of multiphase wastes from drums and other containerized wastes. One configuration consists of a 152 cm by 4 cm I.D. section of tubing with a neoprene stopper at one end attached by a rod running the length of the tube to a locking mechanism at the other end.

Manipulation of the locking mechanism opens and closes the sampler by raising and lowering the neoprene stopper. On one model of the COLIWASA, the design can be modified and/or adapted somewhat to meet the needs of the sampler.

The major drawbacks associated with using a COLIWASA concern decontamination and costs. The sampler is difficult, if not impossible to decontaminate in the field and its high cost in relation to alternative procedures (glass tubes) make it an impractical throwaway item. It still has applications, however, especially in instances where a true representation of a multiphase waste is absolutely necessary.

Follow these procedures for using the COLIWASA:

1. Put the sampler in the open position by placing the stopper rod handle in the T-position and pushing the rod down until the handle sits against the sampler's locking block.

2. Slowly lower the sampler into the liquid waste. Lower the sampler at a rate that permits the levels of the liquid inside and outside the sampler tube to be about the same. If the level of the liquid in the sampler tube is lower than that outside the sampler, the sampling rate is too fast and will result in a non-representative sample.

3. When the sampler stopper hits the bottom of the waste container, push the sampler tube downward against the stopper to close the sampler. Lock the sampler in the closed position by turning the T-handle until it is upright and one end rests tightly on the locking block.

4. Slowly withdraw the sample from the waste container with one hand while wiping the sampler tube with a disposable cloth or rag with the other hand.

5. Carefully discharge the sample into a suitable sample container by slowly pulling the lower end of the T-handle away from the locking block while the lower end of the sampler is positioned in a sample container.

6. Cap the sample container tightly and place prelabeled sample container in a carrier.

7. Replace the bung or place plastic over the drum.

8. Log all samples in the site logbook and on field data sheets.

9. Package samples and complete necessary paperwork.

10. Transport sample to decontamination zone to prepare it for transport to the analytical laboratory.

2.8 CALCULATIONS

This section is not applicable to this SOP.

2.9 QUALITY ASSURANCE/QUALITY CONTROL

The following general assurance procedures apply:

- Document all data on standard chain of custody forms, field data sheets, or within site logbooks.

- Operate all instrumentation in accordance with operating instructions as supplied by the manufacturer, unless

otherwise specified in the work plan. Equipment checkout and calibration activities must occur prior to sampling/operation, and they must be documented.

2.10 DATA VALIDATION

This section is not applicable to this SOP.

2.11 HEALTH AND SAFETY

When working with potentially hazardous materials, follow U.S. EPA, OSHA and specific health and safety procedures.

The opening of closed containers is one of the most hazardous site activities. Maximum efforts should be made to ensure the safety of the sampling team. Proper protective equipment and a general awareness of the possible dangers will minimize the risk inherent in sampling operations. Employing proper drum-opening techniques and equipment will also safeguard personnel. Use remote sampling equipment whenever feasible.

APPENDIX C
TANK SAMPLING PROTOCOL

3.0 TANK SAMPLING: SOP #2010

3.1 SCOPE AND APPLICATION

The purpose of this Standard Operating Procedure (SOP) is to provide protocols for sampling tanks and other confined spaces from outside the vessel.

3.2 METHOD SUMMARY

The safe collection of a representative sample should be the criterion for selecting sample locations. A representative sample can be collected using techniques or equipment that are designed for obtaining liquids or sludges from various depths. The structure and characteristics of storage tanks present problems with collection of samples from more than one location; therefore, the selection of sampling devices is an important consideration.

Depending on the type of vessel and characteristics of the material to be sampled, one can choose a bailer, glass thief, bacon bomb sampler, sludge judge, COLIWASA, or subsurface grab sampler to collect the sample. For depths of less than 5-feet, a bailer, COLIWASA, or sludge judge can be used. A sludge judge, subsurface grab sampler, bailer, or bacon bomb sampler can be used for depths greater than 5-feet. A sludge judge or bacon bomb can be used to determine if the tank consists of various strata.

All sample locations should be surveyed for air quality prior to sampling. At no time should sampling continue with an LEL reading greater than 25%.

All personnel involved in tank sampling should be advised as to the hazards associated with working in unfavorable conditions.

3.3 SAMPLE PRESERVATION, CONTAINERS, HANDLING, AND STORAGE

Samples collected from tanks are considered waste samples and, as such, addition of preservatives is not required due to the potential reaction of the sample with the preservative. Samples should, however, be cooled to 4°C and protected from sunlight in order to minimize any potential reaction due to the fight sensitivity of the sample.

Sample bottles for collection of waste liquids, sludges, or solids are typically wide-mouth amber jars with Teflon-lined screw caps. Actual volume required for analysis should be determined in conjunction with the laboratory performing the analysis.

Waste sample handling procedures should be as follows:

1. Place sample container in two Ziploc plastic bags.

2. Place each bagged container in a 1-gallon covered can containing absorbent packing material. Place the lid on the can.

3. Mark the sample identification number on the outside of the can.

4. Place the marked cans in a cooler, and fill remaining space with absorbent packing material.

5. Fill out a chain of custody form for each cooler, place it in plastic, and afflx it to the inside lid of the cooler.

6. Secure and custody seal the lid of cooler.

7. Arrange for the transportation appropriate for the type of hazardous waste involved.

3.4 INTERFERENCES AND POTENTIAL PROBLEMS

Sampling a storage tank requires a great deal of manual dexterity, often requiring the sampler to climb to the top of the tank upon a narrow vertical or spiral stairway or ladder while wearing protective clothing and carrying sampling equipment.

Before climbing onto the vessel, perform a structural survey of the tank to ensure the sampler's safety and accecessibility prior to initiating field activities.

As in all opening of containers, take extreme caution to avoid ignition or combustion of volatile contents. All tools used must be constructed of a non-sparking material and electronic instruments must be intrinsically safe.

All sample locations should be surveyed for air quality prior to sampling. At no time should sampling continue with an LEL reading greater than 25%.

3.5 EQUIPMENT/APPARATUS

Storage tank materials include liquids, sludges, still bottoms, and solids of various structures. The type of sampling equipment chosen should be compatible with the waste. Samplers commonly used for tanks include: the bacon bomb sampler, the sludge judge, glass thief, bailer, COLIWASA, and subsurface grab sampler.

- sampling plan
- safety equipment
- tape measure
- weighted tape line or equivalent
- camera/film
- stainless steel bucket or bowl
- sample containers

- Ziploc plastic bags
- logbook
- labels
- field data sheets
- chain of custody forms
- flashlight (explosion proof)
- coolers
- ice
- decontamination supplies
- bacon bomb sampler
- sludge judge
- glass thief
- bailer
- COLIWASA
- subsurface grab sampler
- water/oil level indicator
- OVA (organic vapor analyzer or equivalent)
- explosimeter/oxygen meter
- high volume blower

3.6 REAGENTS

Reagents are not typically required for the preservation of waste samples. However, reagents will be utilized for decontamination of equipment. Decontamination solutions required are specified in SOP #2006, Sampling Equipment Decontamination.

3.7 PROCEDURES

3.7.1 Preparation

1. Determine the extent of the sampling effort, the sampling methods to be employed, and which equipment and supplies are needed.

2. Obtain necessary sampling and monitoring equipment.

3. Decontaminate or preclean equipment, and ensure that it is in working order.

4. Prepare scheduling and coordinate with staff, clients, and regulatory agency, if appropriate.

5. Perform a general site survey prior to site entry in accordance with the site-specific health and safety plan.

6. Identify and mark all sampling locations.

3.7.2 Preliminary Inspection

1. Inspect the external structural characteristics of each tank and record in the site logbook. Potential sampling points should be evaluated for safety, accessibility, and sample quality.

2. Prior to opening a tank for internal inspection, the tank sampling team should:

   - Review safety procedures and emergency contingency plans with the Safety Officer,
   - Ensure that the tank is properly grounded,
   - Remove all sources of ignition from the immediate area.

3. Each tank should be mounted using appropriate means. Remove manway covers using non-sparking tools.

4. Collect air quality measurements for each potential sample location using an explosimeter/oxygen meter for a lower explosive limit (LEL/O,) reading and an OVA/HNU for an organic vapor concentration. Both readings should be taken from the tank headspace, above the sampling port, and in the breathing zone.

5. Prior to sampling, the tank headspace should be cleared of any toxic or explosive vapor concentration using a high volume blower. No work should start if LEL readings exceed 25%. At 10% LEL, work can continue but with extreme caution.

3.7.3 Sampling Procedures

1. Determine the depth of any and all liquid-solid interface, and depth of sludge using a weighted tape measure, probe line, sludge judge, or equivalent.

2. Collect liquid samples from 1-foot below the surface, from mid-depth of liquid, and from 1foot above the bottom sludge layer. This can be accomplished with a subsurface grab sampler or bacon bomb. For liquids less than 5-feet in depth, use a glass thief or COLIWASA to collect the sample.

   If sampling storage tanks, vacuum trucks, or process vessels, collect at least one sample from each compartment in the tank. Samples should always be collected through an opened hatch at the

top of the tank. Valves near the bottom should not be used, because of their questionable or unknown integrity. If such a valve cannot be closed once opened, the entire tank contents may be lost to the ground surface. Also, individual strata cannot be sampled separately through a valve near the bottom.

3. Compare the three samples for visual phase differences. If phase differences appear, systematic iterative sampling should be performed. By halving the distance between two discrete sampling points, one can deter *Mine the depth of the phase change.

4. If another sampling port is available, sample as above to verify the phase information.

5. Measure the outside diameter of the tank and determine the volume of wastes using the depth measurements.

6. Sludges can be collected using a bacon bomb sampler, glass thief, or sludge judge.

7. Record all information on the sample data sheet or site logbook. Label the container with the appropriate sample tag.

8. Decontaminate sampling equipment as per SOP #2006, Sampling Equipment Decontamination.

3.7.4 Sampling Devices

Bacon Bomb Sampler

The bacon bomb sampler is designed to collect material from various levels within a storage tank. It consists of a cylindrical body, usually made of chrome-plated brass and bronze with an internal tapered plunger that acts as a valve to admit the sample. A line attached to the top of the plunger opens and closes the valve. A line is attached to the removable top cover which has a locking mechanism to keep the plunger closed after sampling.

1. Attach the sample line and the plunger line to the sampler.

2. Measure and then mark the sampling line at the desired depth.

3. Gradually lower the bacon bomb sampler by the sample line until the desired level is reached.

4. When the desired level is reached, pull up on the plunger line and allow the sampler to flu before releasing the plunger line to seal off the sampler.

5. Retrieve the sampler by the sample line. Be careful not to pull up on the plunger line and thereby prevent accidental opening of the bottom valve.

6. Rinse or wipe off the exterior of the sampler body.

7. Position the sampler over the sample container and release its contents by pulling up on the plunger line.

8. Cap the sample container tightly and place prelabeled sample container in a carrier.

9. Replace the bung or place plastic over the tank.

10. Log all samples in the site logbook and on field data sheets and label all samples.

11. Package samples and complete necessary paperwork.

12. Transport sample to decontamination zone to prepare it for transport to the analytical laboratory.

Sludge Judge

A sludge judge is used for obtaining an accurate reading of solids which can settle, in any liquid, to any depth. The sampler consists of 3/4-inch plastic pipe in 5-foot sections, marked at 1-foot increments, with screw-style fittings. The top section includes a nylon line for raising the sampler.

1. Lower the sludge judge to the bottom of the tank.

2. When the bottom has been reached, and the pipe has filled to surface level, tug slightly on the rope as you begin to raise the unit. This will seat the check valve, trapping the column of material.

3. When the unit has been raised clear of the tank liquid, the amount of sludge in the sample can be read using the 1-foot increments marked on the pipe sections.

4. By touching the pin extending from the bottom section against a hard surface, the material is released from the unit.

5. Cap the sample container tightly and place prelabeled sample container in a carrier.

6. Replace the bung or place plastic over the tank.

7. Log all samples in the site logbook and on field data sheets and label all samples.

8. Package samples and complete necessary paperwork.

9. Transport sample to decontamination zone to prepare it for transport to the analytical laboratory.

Subsurface Grab Sampler

Subsurface grab samplers are designed to collect samples of liquids at various depths. The sampler is usually constructed of aluminum or stainless steel tubing with a polypropylene or Teflon head that attaches to a 1-liter sample container.

1. Screw the sample bottle onto the sampling head.

2. Lower the sampler to the desired depth.

3. Pull the ring at the top which opens the spring-loaded plunger in the head assembly.

4. When the bottle is full, release the ring, lift sampler, and remove sample bottle.

5. Cap the sample container tightly and place prelabeled sample container in a carrier.

6. Replace the bung or place plastic over the tank.

7. Log all samples in the site logbook and on field data sheets and label all samples.

8. Package samples and complete necessary paperwork.

9. Transport sample to decontamination zone to prepare it for transport to the analytical laboratory.

Glass Thief

The most widely used implement for sampling is a glass tube commonly referred to as a glass thief. This tool is simple, cost effective, quick, and collects a sample without having to decontaminate. Glass thieves are typically 6mm to 16mm I.D. and 48 inches long.

1. Remove cover from sample container.

2. Insert glass tubing almost to the bottom of the tank or until a solid layer is encountered. About 1 foot of tubing should extend above the tank.

3. Allow the waste in the tank to reach its natural level in the tube.

4. Cap the top of the sampling tube with a tapered stopper or thumb, ensuring liquid does not come into contact with stopper.

5. Carefully remove the capped tube from the tank and insert the uncapped end in the sample container. Do not spill liquid on the outside of the sample container.

6. Release stopper and allow the glass thief to drain until the container is approxdmately 2/3 full.

7. Remove tube from the sample container, break it into pieces and place the pieces in the tank.

8. Cap the sample container tightly and place prelabeled sample container in a carrier.

9. Replace the bung or place plastic over the tank.

10. Log all samples in the site logbook and on field data sheets and label all samples.

11. Package samples and complete necessary paperwork.

12. Transport sample to decontamination zone to prepare it for transport to the analytical laboratory.

In many instances a tank containing waste material will have a sludge layer on the bottom. Slow insertion of the sample tube down into this layer and then a gradual withdrawal will allow the sludge to act as a bottom plug to maintain the fluid in the tube. The plug can be gently removed and placed into the sample container by the use of a stainless steel lab spoon.

Bailer

The positive-displacement volatile sampling bailer (manufactured by GPI or equivalent) is perhaps the most appropriate for collecting water samples for volatile analysis. Other bailer types (messenger, bottom fill, etc.) are less desirable, but may be mandated by cost and site conditions. Generally, bailers can provide an acceptable sample, providing that the sampling personnel use extra care in the collection process.

1. Make sure clean plastic sheeting surrounds the tank.

2. Attach a line to the bailer.

3. Lower the bailer slowly and gently into the tank so as not to splash the bailer into the tank contents.

4. Allow the bailer to fill completely and retrieve the bailer from the tank.

5. Begin slowly pouring from the bailer.

6. Cap the sample container tightly and place prelabeled sample container in a carrier.

7. Replace the bung or place plastic over the tank.

8. Log all samples in the site logbook and on field data sheets and label all samples.

9. Package samples and complete necessary paperwork.

10. Transport sample to decontamination zone to prepare it for transport to an analytical laboratory.

COLIWASA

Some equipment is designed to collect a sample from the full depth of a tank and maintain it in the transfer tube until delivery to the sample bottle. These designs include primarily the Composite Liquid Waste Sampler (COLIWASA) (Figure 8, Appendix B) and modifications thereof. The COLIWASA is a much cited sampler designed to permit representative sampling of multiphase wastes from tanks and other containerized wastes. One configuration consists of a 152 cm by 4 cm I.D. section of tubing with a neoprene stopper at one end attached by a rod running the length of the tube to a locking mechanism at the other end. Manipulation of the locking mechanism opens and closes the sampler by raising and lowering the neoprene stopper.

The major drawbacks associated with using a COLIWASA concern decontamination and costs. The sampler is difficult if not impossible to decontaminate in the field and its high cost in rciation to alternative procedures (glass tubes) make it an impractical throwaway item. It still has applications, however, especially in instances where a true representation of a multiphase waste is absolutely necessary.

1. Put the sampler in the open position by placing the stopper rod handle in the T-position and pushing the rod down until the handle sits against the sampler's locking block.

2. Slowly lower the sampler into the liquid waste. Lower the sampler at a rate that permits the levels of the liquid inside and outside the sampler tube to be about the same. If the level of the liquid in the sample tube is lower than that outside the sampler, the sampling rate

is too fast and will result in a non-representative sample.

3. When the sampler stopper hits the bottom of the waste container, push the sampler tube downward against the stopper to close the sampler. Lock the sampler in the closed position by turning the T-handle until it is upright and one end rests tightly on the locking block.

4. Slowly withdraw the sample from the waste container with one hand while wiping the sampler tube with a disposable cloth or rag with the other hand.

5. Carefully discharge the sample into a suitable sample container by slowly pulling the lower end of the T-handle away from the locking block while the lower end of the sampler is positioned in a sample container.

6. Cap the sample container tightly and place prelabeled sample container in a carrier.

7. Replace the bung or place plastic over the tank.

8. Log all samples in the site logbook and on field data sheets and label all samples.

9. Package samples and complete necessary paperwork.

10. Transport sample to decontamination zone to prepare it for transport to the analytical laboratory.

3.8 CALCULATIONS

Refer to Appendix C for calculations to determine tank volumes.

3.9 QUALITY ASSURANCE/QUALITY CONTROL

There are no specific quality assurance activities which apply to the implementation of these procedures. However, the following general QA procedures apply:

- All data must be documented on field data sheets or within site logbooks.

- All instrumentation must be operated in accordance with operating instructions as supplied by the manufacturer, unless otherwise specified in the work plan. Equipment checkout and calibration activities must occur prior to sampling/operation and they must be documented.

3.10 DATA VALIDATION

This section is not applicable to this SOP.

3.11 HEALTH AND SAFETY

When working with potentially hazardous materials, follow U.S. EPA, OSHA, and specific health and safety procedures. More specifically, the hazards associated with tank sampling may cause bodily injury, illness, or death to the worker. Failure to recognize potential hazards of waste containers is the cause of most accidents. It should be assumed that the most unfavorable conditions exist, and that the danger of explosion and poisoning will be present. Hazards specific to tank sampling are:

- Hazardous atmospheres can be flammable, toxic, asphyxiating, or corrosive.
- If activating electrical or mechanical equipment would cause injury, each piece of equipment should be manually isolated to prevent inadvertent activation while workers are occupied.
- Communication is of utmost importance between the sampling worker and the standby person to prevent distress or injury going unnoticed. The Illuminating Engineers Society Lighting Handbook requires suitable illumination to provide sufficient visibility for work.
- Noise reverberation may disrupt verbal communication with standby personnel.
- Tank vibration may affect multiple body parts and organs of the sampler depending on vibration characteristics.
- General hazards include falling scaffolding, surface residues (which could cause electrical shock, incompatible material reactions, slips, or fails), and structural objects (including baffles/trays in horizontal/vertical tanks, and overhead structures).

ATTACHMENT D

ATTACHMENT D - SITE INVENTORY (DRUMS, TANKS, UST'S)

SITE: NEARPARA RUBBER INC., HAMILTON TOWNSHIP, MERCER COUNTY, NJ
ASSESSMENT DATES: June 9 and 10, 1993

DRUM NUMBER	SIZE	LID TYPE	% FULL	CONTENTS	MARKINGS	DRUM TYPE
DRUM SHED - INDOORS						
001	55 gallon	open top	75%	mixed	"solvent" In meanstreak	steel
002	55 gallon	open top	25%	unknown	no access, no markings	steel
003	55 gallon	closed top	75%	unknown	no markings	steel
004	55 gallon	open top	full	unknown liq.	"Exxon Mfg."	steel
005	55 gallon	open top	full	unknown liq.	no markings	steel
006	55 gallon	open top	50%	brown liq.	"Latex Lube AR", Dubois Chemical Co.	steel
007	55 gallon	open top	50%	debris, rubber	no markings	steel
008	55 gallon	closed top	50%	unknown liq.	"Exxon", Engine Oil Industrial	steel
009	55 gallon	closed top	full	green-yellow liq.	no markings	steel
010	55 gallon	open top	full	brown liq.	"Latex Lube AR", Dubois chem.	steel
011	55 gallon	closed top	25%	unknown liq.	"corrosive" label	plastic
012	55 gallon	closed top	50%	unknown liq.	#s marked in mean streak	steel
013	55 gallon	closed top	full	unknown liq.	no markings	steel
014	30 gallon	closed top	75%	unknown "solid"	"grease written on drum	steel
015	55 gallon	closed top	full	unknown liquid	"corrosive" label	plastic
DRUM SHED - ROOM 2						
015A	55 gallon	open top	<25%	white powder	"corrosive" label	steel
016	55 gallon	open top	50%	unknown solid	no markings	steel
017	55 gallon	closed top	25%	unknown contents	no markings	steel
OUTDOORS - BY TANK FARM						
101	55 gallon	closed top	50%	unknown liq.	"SUNOCO" SOLNUS AC100 lubricant	steel
102	55 gallon	closed top	50%	unknown liq.	"ATF"	steel
103	55 gallon	closed top	50%	unknown liq.	"Exxon", Tresstick 150	steel
104	55 gallon	closed top	50%	unknown liq.	"Mobil", lube oil	steel
105	55 gallon	closed top	50%	unknown liq.	"corrosive" label	plastic
106	55 gallon	open top	25%	black liquid	Latex Lube AR	steel
107	55 gallon	open top	50%	unknown liquid	Exxon, nonexempt - MT	steel
108	55 gallon	open top	25%	unknown liquid	Latex Lube AR	steel
109	55 gallon	open top	75%	unknown contents	Latex Lube, AR	steel
110	55 gallon	open top	25%	unknown contents	"caustic soda" , oxidizer and corrosive labels	plastic
111	55 gallon	open top	full	debris drum	no markings	plastic

ATTACHMENT D - SITE INVENTORY (DRUMS, TANKS, UST'S)

SITE: NEARPARA RUBBER INC., HAMILTON TOWNSHIP, MERCER COUNTY, NJ
ASSESSMENT DATES: June 9 and 10, 1993

DRUM NUMBER	SIZE	LID TYPE	% FULL	CONTENTS	MARKINGS	DRUM TYPE
112	55 gallon	open top	50%	unknown contents	no markings	steel
113A	55 gallon	open top	full	debris	no markings	steel
113B	55 gallon	open top	25%	solid contents	no markings	steel
114	55 gallon	open top	25%	solid contents	no markings	steel
115	55 gallon	open top	25%	solid/debris	no markings	steel
116	55 gallon	open top	full	debris	no markings	steel
117	55 gallon	open top	50%	sludge	no markings	steel
118	55 gallon	open top	50%	sludge	no markings	steel
119	40 gallon	open top	full	debris	no markings	steel
MISCELLANEOUS ITEMS						
cylinder - C-01			90 pound		acetylene	steel
cylinder - C-02			90 pound		oxygen	steel
transformers			2		wrapped in plastic w/PCB label	steel
VAT - 001					black, oil like contents	
TANKS						
T-1	10,000 gallon		33%	liquid	marked "solvent residue"	steel
T-2	10,000 gallon		25%	liquid	marked "#410 oil	steel
T-3	5,000 gallon				marked "#1102 oil	steel
T-4	10,000 gallon				marked "air oil tank"	steel
T-5	5000 gallon			liquid	marked "water tank"	steel
T-6	5,000 gallon			liquid	marked "water tank"	steel
T-7	3,000 gallon				no markings	steel
T-8	3,000 gallon				may be a boiler	steel
T-9	3,000 gallon				may be a boiler	steel
T-10	250 gallon			empty	marked "kerosene", residential type tank	steel
T-11	250 gallon			empty	marked "kerosene", residential type tank	steel
UNDERGROUND STORAGE TANKS						
A	20,000 gallon			#6 oil		steel
B	20,000 gallon			empty		steel
C	1,000 gallon			leaded gasoline		steel
D	1,000 gallon			contains rubber	previously used as caustic tank	
PROCESS BUILDING DRUMS						

ATTACHMENT D - SITE INVENTORY (DRUMS, TANKS, UST'S)

SITE: NEARPARA RUBBER INC., HAMILTON TOWNSHIP, MERCER COUNTY, NJ
ASSESSMENT DATES: June 9 and 10, 1993

DRUM NUMBER	SIZE	LID TYPE	% FULL	CONTENTS	MARKINGS	DRUM TYPE
PB-01	55 gallon	open top	50%	cloudy, brown liq.	Exxon, Ronex-MP", He=1, fire=1, react.=0	steel
PB-02	55 gallon	open top	full	clear liq.	Latex Lube - AR	steel
PB-03	55 gallon	open top	25%	cloudy white liq.	Dubois Chemicals, CN, Ohio, "Latex Lube AR"	steel
PB-04	55 gallon	open top	25%	sol. wht & liq. brn.	no markings	steel
PB-05	55 gallon	closed top	full	unknown liq.	Industrial Water Tech. Inc.", corrosive label	plastic
PB-06	55 gallon	open top	75%	cloudy brown liq.	"Latex Lube AR"	steel
PB-07	10 gallon	open top	full	white powder	Ind. Water Tech Inc. 61 Village Ct. Hazlet	fiber
PB-08	55 gallon	open top	75%	lk. grease, wht. powde	Exxon - Ronex MP	steel
PB-09	55 gallon	closed top	75%	liquid	no markings, wht. pdr. on drum lid	plastic
PB-010	55 gallon	closed top	75%	unknown liq.	"malabate", --NO-8814598; 40 OVA, 56 HNU headspace	steel
PB-011	55 gallon	closed top	<25%	unknown liquid	bung open, no markings	steel
PB-012	55 gallon	open top	25%	solid contents	no markings, inaccessable, drum on top	steel
PB-013	55 gallon	open top	full	rubber	no markings	steel
PB-014	55 gallon	open top	full	brown liquid	no markings	steel
PB 015	55 gallon	open top	full	rubbery contents	no markings	steel
PB-016	5 gallon	open top	full	grease & debris	no markings	steel
PB-017	5 gallon	open top	full	grease & debris	no markings	steel
PB-018	5 gallon	open top	full	oily substance	no markings	plastic
PB-019	55 gallon	open top	full	rubbery subs.	no visible markings, inaccessable drum	steel
PB-020	55 gallon	open top	full	rubbery contents	no visible markings	steel
PB-021	55 gallon	open top	full	rubbery contents	no markings, inaccessable drum	steel

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION II

JACOB K. JAVITS FEDERAL BUILDING

NEW YORK, NEW YORK 10278

DATE: SEP 29 1993

SUBJECT: Request for a Removal Action at Nearpara Rubber Incorporated, Hamilton Township, Mercer County, New Jersey. **ACTION MEMORANDUM**

FROM: Neil J. Norrell, On-Scene Coordinator
Response and Prevention Branch

TO: William J. Muszynski, P.E.
Acting Regional Administrator

THRU: George Pavlou, Acting Director
Emergency and Remedial Response Division

Site ID No.: BZ

I. PURPOSE

The purpose of this Action Memorandum is to request and document approval of a proposed removal action described herein for the Nearpara Rubber Incorporated site (Site) located at 1849 East State Street Extension (Block 46, Lot 16), Hamilton Township, New Jersey.

On April 8, 1993, the United States Environmental Protection Agency's (EPA) Emergency and Remedial Response Division, at the request of the New Jersey Department of Environmental Protection and Energy (NJDEPE), conducted a joint inspection of the Site with the NJDEPE and the Hamilton Township Fire Department. On June 9-10, 1993, EPA performed a preliminary assessment of the Site for the purpose of determining removal action eligibility under the provisions of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) as amended by 42 U.S.C. §9601 et. seq.

This Action Memorandum recommends that a removal action be conducted to secure and stabilize the Site. In addition, all on-site materials should be sampled to determine the best disposal options. A second Action Memorandum will be submitted for transportation and proper disposal of the hazardous substances identified on-site.

This site is not on the National Priorities List (NPL), and there are no nationally significant or precedent setting issues associated with this site.

II. SITE CONDITIONS AND BACKGROUND

A. Site Description

1. Removal Site Evaluation

Located at the Site are approximately 60 drums, 9 above ground tanks, 4 below ground tanks, 8 box trailers, approximately 150,000 cubic feet of whole and shredded tires, large amounts of raw rubber and latex, 2 transformers, 2 compressed gas cylinders and approximately 50 various sized containers of laboratory chemicals.

The approximately 60 drums, most in poor condition and open, are located throughout the facility. The drums contain varying amounts of solids and liquids. Some of the drums do have markings, however, all materials are considered to be unknowns at this time. In addition, several of the drums appear to have leaked some or all of their contents. On-site analysis on some of the containers indicate the presence of flammable, corrosive and chlorinated compounds.

The above ground storage tanks contain various liquids and are marked as; air oil, solvent residue, water, 410 oil and 1102 oil. These materials are believed to have been used as solvents in the rubber recycling process and may be contaminated with other material. The tanks and associated piping are rusted and pitted and areas underneath the tanks show signs of spillage or leakage. The underground storage tanks are reported to contain unleaded gasoline, No. 2 oil and No. 6 oil. The age and condition of these tanks are not known at this time. Field analysis of tank samples performed during the assessment, confirmed the materials as being flammable liquids.

The box trailers on-site contain waste rubber and waste latex along with 55-gallon drums and other containers. The contents of the drums and containers have not yet been determined. Several of the trailers are loaded with rubber and latex in such a way that access to the forward portions of the trailers is precluded. It is possible that additional drums are located inside these trailers.

The two compressed gas cylinders, tentatively identified as oxygen and acetylene, are in good condition. The quantity of compressed gas contained within the cylinders has not been determined.

Approximately 50 containers of laboratory containers are present in the laboratory portion of the facility. Approximately half the materials are unknown, with the remaining being tentatively identified as various acids, bases and solvents.

Two transformers located near the tank farm portion of the site tested positive for the presence of chlorine in field analysis. This is a strong indicator that the cooling oil may contain polychlorinated biphenyls (PCBs).

Additionally, there is a large pile of tires, approximately 150,000 cubic feet, located at the western edge of the property.

2. Physical Location

The Site is located at 1849 East State Street Extension (Block 46, Lot 16), Hamilton Township, Mercer County, New Jersey. The Site occupies approximately 8.5 acres in a heavily industrialized area. The site is bordered on the southeast by East State Street Extension, on the west by Whitehead Road and the Conrail/Amtrak North East Corridor Mainline which consists of 4 high speed passenger lines and 2 freight lines.

Within 1/4 mile of the site are several major roads leading to and from the city of Trenton, 2 residential neighborhoods and several large and small businesses. Within 1/2 mile of the site are 1 high school, 1 elementary school and 3 senior citizen housing complexes. Assumpink Creek, a tributary of the Delaware River, is approximately 2,000 feet west of the Site.

3. Site Characteristics

Nearpara Rubber was a recycler of rubber and latex. Their operation included the break down of the rubber and latex material in large reaction chambers by the addition of heat, various oils and solvents. The company operated for over eighty years. In February of 1993, the facility was abandoned as a result of bankruptcy hearings and the predicted cost of a comprehensive site cleanup.

On April 8, 1993, a joint site inspection was performed by NJDEPE, Hamilton Township Fourth Fire District and EPA. The inspection revealed the presence of the materials mentioned previously in this memorandum.

4. Release or Threatened Release into the Environment of a Hazardous Substance, or Pollutant or Contaminant

Information regarding the materials at the site is based upon field analysis performed during a preliminary assessment conducted by EPA on June 9-10, 1993. Some of these materials are hazardous substances as defined by Section 101(14) of CERCLA.

The following is a partial list of the hazardous substances at the site.

Substance Identified	Statutory Source for Designation as a Hazardous Substance
Toluene	RCRA, Section 3001
Sulfuric Acid	RCRA, Section 3001
Acetic Acid	RCRA, Section 3001
Hydrogen Chloride	RCRA, Section 3001
Toluidine	RCRA, Section 3001
Materials exhibiting the Characteristic of Corrosivity	RCRA, Section 3001 (as defined in CFR 40, Part 261.22)
Materials exhibiting the Characteristic of Ignitability	RCRA, Section 3001 (as defined in CFR 40, Part 261.21)
Sodium Hydroxide	RCRA, Section 3001
Polychlorinated Biphenyls (PCB's)	TSCA, Section 6

Due to the presence of flammable liquids, such as toluene and isopropyl alcohol, and oxidizers, such as sodium hydroxide and hydrogen peroxide, the threat of fire at the facility does exist. Should a fire occur, it would spread across the facility quickly and involve most types of material found at the Site. The toxic fumes created by the uncontrolled combustion of these materials would severely impact the surrounding population, possibly necessitating the evacuation of the surrounding population and the closure of major rail lines and roadways.

In addition, runoff from firefighting efforts would flow into the storm sewer located at the front of the facility. The storm sewer flows into Assumpink Creek, a tributary of the Delaware River.

Should any of the tanks or other containers rupture or leak, contamination of the soil and groundwater would occur. Rain

would wash contaminants possibly into a storm sewer which flows into the Assumpink Creek/Delaware River system.

5. NPL Status

At the present time, the Site is not on the NPL and there are no efforts underway to include this Site on the NPL.

B. Other Actions to Date

1. Previous Actions

On July 17, 1993, NJDEPE issued Field Directives to all potentially responsible parties (PRPs) for the sampling, characterization and disposal of all hazardous wastes and the sampling, excavation and disposal of contaminated soil. The response date required by each Directive was August 9, 1993 and no PRPs indicated a willingness to perform these actions.

2. Current Actions

There are no current actions being undertaken by any other agency or by the PRPs.

C. State and Local Authorities' Roles

1. State and Local Actions to Date

NJDEPE received no responses to the Field Directives issued to PRPs and subsequently requested EPA's assistance in addressing the situation at the site. The initial request was made verbally on April 8, 1993, and a written request was received on August 23, 1993.

2. Potential for Continued State/Local Response

Neither NJDEPE or local government have the resources available to do the necessary removal action at the site. These organizations will act in a supporting role throughout the Removal Action.

III. THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES

A. Threats to Public Health or Welfare

Materials located throughout the Site are stored in a unsafe manner. Drums are in poor condition and open, storage tanks containing flammable liquids are in deteriorating condition and laboratory reagents are stored without regard to compatibility.

At this time, the Site is not secure. Perimeter fencing is collapsed, with openings in some areas. The main gate of the facility, though locked, is bent in such a manner as to permit uncontrolled access to the property.

The condition of materials at the Site and evidence of recent entries onto the property contribute to the possibility of direct human contact. Many of the materials present are unknowns, therefore, the effects of acute or chronic exposure cannot be predicted.

Due to the presence of flammable liquids, such as toluene and isopropyl alcohol, and oxidizers, such as sodium hydroxide and hydrogen peroxide, the threat of fire at the facility does exist. Should a fire occur it would spread across the facility quickly and involve most of the material found at the Site. The toxic fumes created by the uncontrolled combustion of these materials would severely impact the surrounding population, possibly necessitating the evacuation of the surrounding population and the closure of major rail lines and roadways.

B. Threats to the Environment

Failure of the tanks or other containers would result in contamination of the soil and possibly groundwater. Rainwater would wash contaminants off-site, into the storm sewer and into the Assumpink Creek impacting the Delaware River bio-system. If a fire were to occur on-site, contaminated runoff from firefighting would also enter these waterways.

IV. ENDANGERMENT DETERMINATION

Actual or threatened releases of hazardous substances from the Site, if not addressed by implementing the response action selected in this Action Memorandum may present an imminent and substantial endangerment to public health, welfare, or the environment.

V. PROPOSED ACTIONS AND ESTIMATED COSTS

A. Proposed Actions

1. Proposed Action Description

The purpose of this Action Memorandum is to secure and stabilize the Site. In addition, all on-site materials will be sampled to determine the best disposal options. Analysis will be performed on the oils to determine if they have been contaminated during the recycling process and now constitute a hazardous substance or hazardous waste. Should the oils not be hazardous they may be removed if this can be accomplished at no cost to the Agency.

Site activities will include, but not be limited to, the following:

- Establish site security, which may include security guards, until such time as EPA determines that the site stabilization activities are completed and the threat of exposure by unauthorized persons is mitigated;
- Overpack deteriorated drums;
- Inventory and segregate materials;
- Transfer liquid and sludge contents from storage tanks to stable containers as necessary;
- Decontamination of the tanks as necessary;
- Perform disposal sampling/analysis, to include compatibility sampling, for all on-site materials;
- Oil analysis;
- Determine appropriate disposal method for all materials.

2. Contribution to Remedial Performance

The proposed action will contribute effectively to any long term remedial action with respect to the release or threatened release of hazardous substances. This removal action is consistent with any future long-term remedial action undertaken at the site.

3. Description of Alternative Technologies

Alternative technologies will be considered so long as they prove to be cost effective and efficient.

4. Applicable or Relevant and Appropriate Requirements (ARARs)

ARARs within the scope of the project, including RCRA and CERCLA regulations that pertain to the disposal of hazardous wastes, will be met to the extent practicable.

5. Project Schedule

The removal action can be initiated within two weeks of approval for funding. Overpacking, materials transferring, staging, segregating and sampling will occur thereafter.

VI. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

Delayed action or no action could result in the release of hazardous substances into the environment, thereby exposing the nearby residents and employees of the surrounding industries to hazardous substances and causing contamination of the soil, groundwater and nearby river system. Unrestricted access to the property could expose individuals by direct contact.

VII. OUTSTANDING POLICY ISSUES

None.

VIII. ENFORCEMENT

Efforts will be made to identify any viable PRPs to assume responsibility for the cost of the clean-up. The On-Scene Coordinator will work with the Program Support Branch, the Office of Regional Counsel and the NJDEPE in an attempt to locate viable PRPs.

IX. RECOMMENDATION

This decision document represents a selected Removal Action for the Nearpara Rubber Company Site, Hamilton Township, New Jersey developed in accordance with CERCLA as amended, and not inconsistent with the NCP. This decision is based on the Administrative Record for the Site.

Conditions at the site meet the NCP Section 300.415(b)(2) criteria for a Removal Action and I recommend your approval of the proposed removal action. The total project ceiling if approved will be $616,000, of which an estimated $350,000 comes from the Regional removal allowance.

Please indicate your approval of the funding for the Nearpara Rubber Company Site, pursuant to your authority delegated by Assistant Administrator J. Winston Porter, May 25, 1988, Redelegation Memorandum, Delegation Number R-14-1-A.

Approved: K. Callahan for William J. Muszynski, P.E. Date: 9/30/93
Acting Regional Administrator

Disapproved: _____ Date: _____
William J. Muszynski, P.E.
Acting Regional Administrator

cc: (after approval is obtained)
W. Muszynski, 2RA
K. Callahan, 2DRA
G. Pavlou, 2ERRD
R. Salkie, 2ERR-ADREPP
B. Sprague, 2ERR-RPB
D. Karlen, 2ORC-NJSUP
G. Zachos, 2ERR-RAB
J. Daloia, 2ERR-RPB
J. Frisco, 2ERR-DDNJP
J. Marshall, 2EPD
R. Gherardi, 2OPM-FIN
S. Becker, 2ERR-PS
D. Triggs, NJDEPE
C. Moyik, 2ERR-PS
T. Grier, OS-210
J. Rosianski, 2EPD
C. Kelley, TATL
P. McKechnie, 2IG

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION II
EDISON, NEW JERSEY 08837

NOTICE OF PUBLIC AVAILABILITY

The United States Environmental Protection Agency Announces The Availability of the Administrative Record for the Nearpara Rubber Inc. Site

The U.S. Environmental Protection Agency (EPA) announces the availability for public review of files comprising the administrative record for the selection of the removal action at the Nearpara Rubber Inc. Site. The EPA seeks to inform the public of the availability of the record file at this repository and to encourage the public to comment on documents as they are placed in the record file.

The administrative record file includes documents which form the basis for the selection of a removal action at this site. Documents now in the record file include: Site Assessment, Action Memorandum and the EPA regional guidance documents list. Other documents will be added to the record files as site work progresses. These additional documents may include, but are not limited to, other technical reports, validated sampling data, comments, and new data submitted by interested persons, and the EPA responses to significant comments.

The administrative record files are available for review during normal business hours at:

Mercer County Public Library
2751 Brunswick Pike
Lawrenceville, NJ 08648

U.S. EPA - Region II
Response and Prevention Branch
2890 Woodbridge Avenue
Bldg 209
Edison, N.J.
Phone (908) 321-6655

Additional information is available at the following location:

Guidance documents and technical literature

U.S. EPA - Region II
Central Library
2890 Woodbridge Avenue
Bldg 209
Edison, N.J.
Phone (908) 321-6762

Written comments on the Administrative Record should be sent to:

Neil Norrell
On-Scene Coordinator
Response and Prevention Branch
U.S. EPA - Region II
2890 Woodbridge Ave.
Edison, NJ 08837

COMMUNITY RELATIONS PLAN
NEARPARA RUBBER INC.
HAMILTON TOWNSHIP, MERCER COUNTY, NEW JERSEY

October 1993

Prepared By:

Technical Assistance Team
Roy F. Weston, Inc.
Major Programs Division
Edison, New Jersey 08837

Prepared for:

Region II
United States Environmental Protection Agency
Response and Prevention Branch
Edison, New Jersey 08837

I. BACKGROUND

A. Site Description

The Nearpara Rubber Inc. facility is located on East State Street Ext. in Hamilton Township, Mercer County, New Jersey. It is an inactive rubber recycling facility which ceased operations in February 1993. The site is situated in a heavily industrialized section of the township and is bordered on each side by active industrial facilities and Conrail railroad, a major transportation rout in and out of the area.

On June 4, 1993, the EPA conducted a joint inspection of the site with the Hamilton Township Fire Department and the New Jersey Department of Environmental Protection and Energy (NJDEPE). The local fire department was alerted to the site several days earlier by complaints from local residents concerning the facility. The U.S. Environmental Protection Agency's (EPA's) assistance was requested when drummed materials were found site. The fire department expressed additional concern that piles of waste tires stored on site would spread a toxic plume throughout the community should a fire occur at the site.

B. National Priorities List

The Nearpara Rubber Inc. site is not currently on the National Priorities List (NPL).

II. THREAT

A. Threat Of Public Exposure

The main threats to the public concern the exposure through direct human contact and the possibility of fire and/or explosion from improper storage and unsecured conditions of hazardous substances on the site.

B. Threat to the Environment

No sensitive ecological systems have been identified near the facility. However, the area is an active industrial area.

Due to the unsecured condition of the hazardous substances on site, there is the threat of release of materials through leaking containers or vapor release due to reactions involving incompatible materials.

B. Project Tasks

EPA will supervise the following tasks to complete the Phase I Removal Action:

- securing the site;
- inventorying materials on site;
- stabilizing all hazardous substances and materials;
- sampling of materials;
- segregating of materials; and
- analysis of samples.

Disposal of all wastes on site will be accomplished in a future phase.

C. Objective of the Community Relations Plan

The objectives of this plan are to:

- Provide accurate and concise information to interested citizens, elected officials, and media.
- Coordinate local, state, and federal response teams.
- Assist public acceptance of the chosen response action.
- Enlist the assistance of local officials as needed.

The groups to whom the plan is directed are: citizens, citizen groups, local school officials, local businesses, elected officials, and local, state, and federal agencies working in concert with Region II EPA.

Community relations services will be provided by EPA's External Programs Division (EPD), under the direction of the Office of Regional Counsel.

D. Community Relations Activities

ACTIVITIES	DATE(S)	OBJECTIVES	STAFF
Meetings with state, county and local officials	As needed	To develop local officials	OSC,EPD Rep.
Press release	As needed	To brief the community and press on site status.	OSC,EPD Rep.

New Jersey State Agencies

Wolf Skacel
New Jersey Department of Environmental Protection
Division of Hazardous Waste Management
Central Bureau of Field Operations
CN 407
Trenton, New Jersey 08625-0407
(609) 584-4200

New Jersey State Officials

Senator Dick LaRossa (609) 771-0330
1450 Parkside Ave.
Suite 1
Trenton, New Jersey

Assemblyman John Hartman (609) 882-0317
2564 U.S. Route 1
Suite B
Lawrenceville, New Jersey 08648

Assemblyman John Watson (609) 394-8296
240 West State Street
6th Floor
Trenton, New Jersy 08608

Mercer County Officials

Bill Mathesius (609) 989-6517
Mercer County Executive
County Administration Building

Local Officials

Mayor John K. Rafferty (609) 890-3500
2090 Greenwood Ave.
Hamilton, New Jersey 08609

Councilman Jack Lacy (609) 890-3622
2090 Greenwood Ave.
Hamilton, New Jersey 08609

Christina Wilder, Clerk (609) 8890-3622
2090 Greenwood Ave.
Hamilton, New Jersey 08609

EPA REGIONAL GUIDANCE DOCUMENTS

The following documents are available for public review at the EPA Region II Field Office, Raritan Depot, Woodbridge Avenue, Edison, New Jersey during regular business hours. Contact Neil Norrell, On-Scene Coordinator, at (908) 321-4357 for more information.

* Glossary of EPA Acronyms.
* Superfund Removal Procedures--Revision #3. OSWER Directive 9360.0-03B, February 1988.
* Hazardous Waste Operations and Emergency Response. Notice of Proposed Rulemaking and Public Hearings. 29 CFR Part 1910, Monday, August 10, 1987.
* Guidance on Implementation of Revised Statutory Limits on Removal Action. OSWER Directive 9260.0-12, May 25, 1988.
* Redelegation of Authority under CERCLA and SARA. OSWER Directive 9012.10, May 25, 1988.
* Removal Cost Management Manual. OSWER Directive 9360.0-02B, April, 1988.
* Field Standard Operating Procedures (FSOP).
  #4 Site Entry.
  #6 Work Zones.
  #8 Air Surveillance.
  #9 Site Safety Plan.
* Standard Operating Safety Guides -- U.S. EPA Office of Emergency and Remedial Response, July 5, 1988.
* CERCLA Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (Superfund).
* SARA: Superfund Amendments and Reauthorization Act of 1986.

Additional Guidance Documents are listed below and are available for review at the EPA Region II Removal Records Center.

* NCP: National Oil and Hazardous Substances Pollution Contingency Plan. - Publication No. 9200.2-14.
* Guidance on Implementation of the "Contribute to Efficient Remedial Performance" Provision - Publication No. 9360.0-13.

* The Role of Expedited Respponse Actions (EPA) Under SARA - Publication No. 9360.0-15.

* Guidance on Non-NPL Removal Actions InvolvingNationally Significant or Precedent Setting Issues - Publication No. 9360.0-19.

* ARARS During Removal Actions - Publication No. 9360.3-02.

* Consideration of ARARS During Removal Actions - Publication No. 9360.3-02FS.

* Public Participation for OSCs - Community Relations and the Administratrive Record - Publication No.9360.3-05.

* Superfund Removal Procedures - Removal Enforcement Guidance for On-Scene Coordinators - Publication No. 9360.3-06.

* QA/QC for Removal Actions - Publication No. 9360.4-01.

* Compendium for ERT Air Sampling Procedures - Publication No. 9360.4-05.